FLOOD EMERGENCY PROCEDURES PLAN

Control Copy

Former American Cyanamid Site
1100 West Main Street
Bound Brook, NJ

WOODARD &CURRAN

213982.12
Pfizer
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TABLE OF CONTENTS

LIST OF TABLES

TABLE

LIST OF FIGURES

FIGURE

APPENDICES

APPENDIX

1. INTRODUCTION

1.1 BACKGROUND

This Flood Emergency Procedures Plan (FEPP) has been prepared to provide control measures and procedures to protect the American Cyanamid Superfund Site (the Site), personnel and equipment in the event of a flood. This FEPP addresses actions to be taken during a flood emergency. This FEPP is intended to complement the separate Flood Management and Response Plan (FMRP) that addresses the overall flood management program including Site management, preparations for a major storm event and post-flood recovery. A FEPP is called for in the Berm Failure Prevention Program prepared by Blasland, Bouck & Lee (BB&L) on behalf of American Cyanamid Company. The Berm Failure Prevention Program was prepared in 1989 to fulfill a requirement of the Administrative Consent Order (ACO) executed May 25, 1988, by American Cyanamid Company and the New Jersey Department of Environmental Protection (NJDEP).

Operations at the Site have changed substantially since the original FEPP was developed in 1989. An updated FEPP was prepared in 2010 to reflect changes in Site operations and applicable technologies. This FEPP was further revised based on conditions encountered during flooding associated with Hurricane Irene in August 2011.

The Site is currently owned and operated by Wyeth Holdings Corporation (WHC); a wholly owned subsidiary of Pfizer Inc. Environmental compliance for the Site is managed by Quantum Management Group, Inc. (Quantum) on behalf of Pfizer. Site operations are currently managed by Woodard & Curran, the operations and maintenance (O&M) contractor, under contract to Pfizer.

1.2 SITE DESCRIPTION

Most of the Site is located in Bridgewater, New Jersey. The mailing address was changed after Hurricane Irene in 2011. The current (post-Hurricane Irene) Site mailing address is 20 Polhemus Lane, Bridgewater, New Jersey 08807. The Site occupies approximately 435 acres. It is bounded by the Raritan River on the south and west, New Jersey Transit railroad and Main Street to the north and Interstate 287 and Somerset Tire Service (STS) property to the east. The CSX/ Former Lehigh Valley Railroad and the Conrail/ Former Port Reading Railroad cross the southern portion of the Site. In addition, the Site is crossed by Cuckhold's Brook and a tributary of Middle Brook to the east, both of which feed into the Raritan River.

The Site was formerly owned and operated by American Cyanamid. The Site began operations in 1915 with the production of dyes for burlap wall coverings. American Cyanamid acquired the Site in 1929 and at various times produced pharmaceutical chemicals, dyes, rubber, chemicals, elastomers, textile chemicals and pigments. Manufacturing operations at the Site ceased in 1999. The Site has been undergoing remediation activities since 1982 and has been listed on the federal National Priorities List (NPL). Current operations include Site remediation activities and operation of the Impound 8 Facility. Figure 1 is the Overall Site Plan and provides an overview of the existing Site layout.

Existing flood controls at the Site include berms surrounding various impoundments as well as the berm that surrounds the Former Plant Area discussed below. The flood protection systems have been referred to historically as "dikes", "berms" and "levees". For purposes of this plan, the Site flood protection works are described by the generic term "berm."

For purposes of this FEPP, the Site has been divided into four main areas: 1) the Former Plant Area, 2) Southeastern Impoundment Area, 3) Southwestern Impoundment Area, and 4) Impound 8 Facility. Features and boundaries of the four main areas are summarized below. The first three areas are flood-prone and, for purposes of flood planning and flood response activities, the flood-prone areas are considered "on-site". While the Impound 8 Facility is part of the Site, because it is outside of flood-prone areas for purposes of flood management and response, the Impound 8 Facility is designated "off-site."

1.2.1 Former Plant Area

The Former Plant Area comprises the majority of the Site (roughly 268 acres) and is surrounded by the Flood Protection Berm. The following structures are located in the Former Plant Area (see Figure 1):

- Basin 98 storm water pumping station (which is on an elevated platform);
- Building 39 (water meter and backflow preventer, provides water service to the Former Plant Area)
- Building 78 (which is slated for demolition);
- Building 81 (electric switching apparatus removed and the building is abandoned);
- Building 104 bedrock groundwater and storm water (mini-berm area) pump station;
- Building 821 (designated as a tornado shelter, building has been stripped and cleaned and not for use other than a shelter);
- Building 1023 (field maintenance building/rain shelter for daily site activities, including interim minor construction/equipment repair projects, sample bottle labeling and shipping). No material storage will be permitted in Building 1023);
- Former Hazardous materials secure storage area (west of Building 78) – This area is designated on the plan but will no longer be used for the storage of hazardous materials or universal wastes. This material will be stored at the Impound 8 facility once construction is completed.
- Sluice Gate – Structure has been modified to enable site drainage of surface water. The structure has been isolated from the existing Former Plant Area storm water systems.
- East Floodgate (controlled by the County);
- South Floodgate (access to Southeastern Impoundment Area including Impoundments 1 and 2);
- West Floodgate (Contractors Gate, access to Impounds 3,4 and 5 area);
- Impoundment 3;
- Impoundment 4;
- Impoundment 5,
- Impoundment 4/5 Pump House and Treatment System (upgraded with pole mounted electrical feeds and reconfigured chemical feed systems to facilitate removal of chemicals);
- Impoundment 21;
- Former Impoundments 14, 20, 22 and 26;
- Northern Emergency Exit Gate;
- Pumping wells PW-2 and PW-3 (hydraulic control of bedrock contamination, upgraded with direct connection to SRVSA);
- Remediation Enclosure;
- Former On-Site Security Office (currently used only for interim monitoring of on-site activities to control traffic flow and site access);
- Sollenberger Bins (historically used for storage of waste during remediation, currently not in use);
- Visitors Parking Lot, and;

- Blue Lot parking area (used infrequently for overflow parking for the nearby TD Bank Ballpark during the baseball season only

The Former Plant Area is bounded by the following features, as depicted on Figure 1:

- To the north by the New Jersey Transit railroad;
- To the south by the Conrail - Former Lehigh Valley Railroad and CSX – Former Port Reading Railroad;
- To the east by STS, and;
- To the west by Cuckhold's Brook.

1.2.2 Southeastern Impoundment Area

The Southeastern Impoundment Area is separated from the Former Plant Area by the former Lehigh Valley Railroad and Port Reading Railroad rights-of-way. These railroad rights-of-way are currently owned by Conrail and CSX, respectively and are active. The Southeastern Impoundment area includes Impoundments 1, 2, 15, 16, 17 and 18, the Historic Drying Bed area, Impoundment 1 and 2 groundwater recovery system and wastewater treatment plant, and the Concrete Bridge that crosses Cuckhold's Brook. Each of the impoundments is surrounded by a berm. The Southeastern Impoundment Area is bounded by the following features as depicted on Figure 1:

- To the north by the Conrail - Former Lehigh Valley Railroad and CSX – Former Port Reading Railroad;
- To the south by the Raritan River;
- To the east by Interstate 287, and;
- To the west by New Jersey American Water Company.

Conrail removed the grade crossing at the South Floodgate in August 2011 following Hurricane Irene. The South Floodgate is currently open to pedestrian traffic only. It is anticipated that the grade crossing will be restored in 2012. Until that time, the only vehicular access to the Southeastern Impoundment Area is by a gravel access road that extends east from Bufflehead Road south of the Port Reading Railroad line. Due to the limited access afforded to this area, the Southeastern Impoundment Area is subject to evacuation under potential flooding conditions that might not otherwise require evacuation of the remainder of the Site (see Sections 3.2.2 and 3.2.3).

1.2.3 Southwestern Impoundment Area

The Southwestern Impoundment Area is separated from the Former Plant Area by Cuckhold's Brook and is crossed by Bufflehead Road. The Southwestern Impoundment area includes Former Lagoon 6, Lagoon 7, and Impoundments 11, 12, 13 and 24. Each of the impoundments is surrounded by a berm. The berm along the southwestern side of Lagoon 7 is a key part of the overall flood protection system. The Southwestern Impoundment Area is bounded by the following features as depicted on Figure 1:

- To the northwest by the Somerset-Raritan Valley Sewerage Authority (SRVSA);
- To the northeast by Cuckhold's Brook;
- To the southeast by the Conrail - Former Lehigh Valley Railroad and CSX – Former Port Reading Railroad, and;
- To the southwest by the Raritan River.

1.2.4 Impound 8 Facility

The Impound 8 Facility is separated from the Former Plant Area by Cuckhold's Brook, ATS Wood Recycling, Bridgewater Resources Inc. waste transfer station and Polhemus Lane. The Impound 8 Facility includes a RCRA hazardous waste landfill that is surrounded by a berm. The landfill has a leachate collection system and a storm water collection system. The landfill has been approved for use as a Corrective Action Management Unit for disposal of remediation waste from certain impounds at the Site. However, the landfill is not currently receiving any waste. The Impound 8 Facility is bounded by the following features as depicted on Figure 1:

- To the north by the New Jersey Transit Railroad;
- To the east by Polhemus Lane;
- To the south by SRVSA, and;
- To the west by the Somerset County Recycling Center.

Storm water runoff from the Impound 8 Facility is contained and collected prior to discharge to SRVSA.

Because the Impound 8 facility is located above elevation 46 feet MSL or approximately 115 feet relative to the Site datum, this area would not be impacted by flood levels similar to those that were associated with Hurricane Floyd and Irene (approximately 42 feet MSL or 111 feet Site datum). Flooding to a level above 46 feet MSL is not anticipated to occur at this Site; therefore, this location is being utilized as the base for current and future Site operations. The Operations Center, Security Office, Maintenance Garage and Waste Storage facilities are located at Impound 8.

1.3 SITE MODIFICATIONS

As a result of Hurricane Irene in August 2011, the ongoing recovery effort planning and implementation is being performed in a manner that will reduce impacts from future flooding events, improve pre-flood preparedness efforts and reduce post-flood response efforts. Currently the Site is transitioning from the pre-Hurricane Irene infrastructure to a post-hurricane infrastructure which will improve overall flood response planning and efforts. Efforts are underway to improve the Former Plant Area Flood Protection Berm (in an area that has historically encountered flood impacts) and redesign/relocate critical infrastructure to reduce flood impacts to Site operations. Site modifications include moving certain infrastructure to elevations above historical flood levels. It should be noted that the elevation of many features at the Site, including staff gauges, refer to a Site datum. The Site datum elevation is approximately equal to the National Geodetic Vertical Datum (NGVD) of 1929 plus 69.22 feet. For purposes of this document, elevations relative to NGVD are identified as Mean Sea Level or MSL. The following outlines key changes to the Site that will enhance flood planning and reduce flood recovery efforts:

1. Critical infrastructure is being designed to be elevated out of the anticipated future flood elevations. The Production Well 2 and 3 (PW 2/3) groundwater extraction system controls, Basin-98 storm water pumping system and the electrical distribution system will be elevated to approximately 47 feet (MSL) or 116 feet (Site datum).

2. Non-essential buildings are being decommissioned and the main operations center (offices) and security monitoring center are being relocated to the Impound 8 Facility. All records retention, including system operations and inspection logs, will be stored in a secure area at the new Impound 8 Operations Center.

3. A maintenance building and waste storage area are being designed and constructed at the Impound 8 Facility to reduce material and equipment storage within the Former Plant Area. Ground surface elevations in the Impound 8 support area (south of the bermed landfill) range from approximately 115 (site datum) or approximately 46 feet MSL at the office trailer nearest the entrance gate to approximately 125 feet (site datum) or approximately 56 feet MSL at the base of the berm. Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Somerset County (Map Number 34035C0162E Effective September 28, 2007) the Impound 8 Facility is outside of the mapped flood hazard area.

4. The gravity discharge line from PW2/3 to the Building 104 lift station has been upgraded to include a pressure force main bypass that will enable extraction well operations in a flood event. Under normal operations discharge will continue to flow to the Building 104 lift station.

5. A groundwater collection, conveyance and treatment system has been located in the Southeastern Impoundment Area located south of the railroad tracks and is operated by a diesel-powered generator until line power can be brought to the Site (anticipated to occur in 2012). This temporary system is located on an earthen/rock platform at an elevation of approximately 111 feet (Site datum) or 42 feet MSL.

In general, the Site is being rebuilt after Hurricane Irene in a manner that will limit use of the Former Plant Area. It is expected that only limited satellite field offices and a limited on-Site security areas will be restored in the Former Plant Area within the Flood Protection Berm. These limited use facilities will be designated for specific activities and will be decommissioned and removed following completion of the work. The security cameras and access gates will be restored to control Site access and the security building will be utilized on a limited basis to monitor ongoing Site work. The main security operations/monitoring center are located at Impound 8.

2. SUMMARY OF RESPONSIBILITIES

The following personnel are assigned specific responsibilities in this Flood Emergency Procedures Plan:

- Flood Control Coordinator;
- Site Operations, and;
- Site Security.

Personnel responsibilities are summarized below. Section 3 identifies specific actions required by Site personnel during flood conditions. A copy of the current Emergency Call List for the Site is provided in Appendix D. If the Flood Control Coordinator is unavailable, then the first or second alternate Flood Control Coordinator (See Appendix D) shall be contacted and shall assume the responsibilities described in this plan.

Note: These designated personnel should continually assess the ongoing operations at the Site to ensure the efforts required immediately preceding, during and after a flood event are minimized. This will require continually assessing the Site operations and conditions to ensure work activities and/or material storage is being performed in a manner that reduces impacts during a flood event.

2.1 FLOOD CONTROL COORDINATOR

The Flood Control Coordinator (who is also the O&M Contractor's Site Manager) has overall responsibility for all flood control procedures discussed in this FEPP. The Flood Control Coordinator has the primary responsibility for making notifications to Pfizer, Bridgewater Township, Somerset County Engineering, Somerset County Office of Emergency Management, EPA, and utility companies, in the event of any flood conditions described in this FEPP.

The Flood Control Coordinator, or designee, will conduct monthly inspections of the Site flood control works along the Raritan River and Cuckhold's Brook for potential breaches and other conditions that may impact the Site during a flood. All inspections must be documented and any potential issues must be documented and communicated to Pfizer Inc. If major repairs are necessary, the Flood Control Coordinator will also communicate with Bridgewater Township and Somerset County Engineering representatives.

The Flood Control Coordinator is also responsible for coordinating an annual engineering survey of the status of all flood control works. The flood control works include the main flood control berms, flood berms on Impoundments 1 and 2 and the three floodgates. The survey must be conducted annually (no later than March 15th of each calendar year beginning in 2013), and the Flood Control Coordinator must prepare a report of all survey findings, including a summary of bi-weekly inspections, recommendations for any repairs, modifications, or maintenance items required. Currently, the Flood Control Coordinator or their designee (O&M staff and/or support resources) evaluates the flood control works on a bi-weekly basis and records findings in field log sheets and computerized maintenance management system. The inspections will be utilized to provide a basis for the annual evaluation.

The Flood Control Coordinator must access and monitor the Meteorlogix® / Telvent meteorological system information that is provided for the site, on a daily basis, to the Site. The Meteorlogix® / Telvent system provides precipitation forecasts on a real-time basis and provide for 24-hour access to live meteorologists. In the event of a flood, the Flood Control Coordinator should contact the Meterologix® / Telvent system meteorologist directly. Contact information is available through the account information

on the Meteorlogix® / Telvent website. The O&M Contractor maintains a subscription to the Telvent DTN MxVision Weather Sentry.

In addition, the Flood Control Coordinator will monitor the National Weather Service website data for the United States Geological Survey (USGS) gauging station on the Raritan River at Bound Brook as well as the next upstream location at Manville on a daily basis. The data can be obtained at the following web address:

http://water.weather.gov/ahps2/hydrograph.php?wfo=phi&gage=bdkn4&view=1,1,1,1,1,1,1,1

Appendix A of this document includes a copy of the USGS Guide to Hydrologic Information on the Web, and Appendix B of this document includes a copy of the National Weather Service (NWS) Advanced Hydrologic Prediction Service (AHPS) Phase VI End User's Guide.

The Flood Control Coordinator is responsible for ensuring adequate inventories of flashlights, batteries, and safety equipment are on hand, and for ensuring that they are in good working order. The Flood Control Coordinator will complete the following activities on a monthly basis:

- Ensure items on the Emergency Equipment List (see Table 2-1) are present and working at specified locations.
- Inspect the northern gate and flood evacuation routes from vantage points on the Site and publicly accessible areas.
- Observe Cuckhold's Brook at the Concrete Bridge and the West Floodgate for obstructions to water flow beneath the bridge as well as possible obstructions to traffic that may cross the bridge.
- Check battery backup on the weather station; replace as necessary.
- Confirm that the Primary and Alternate Flood Control Coordinators have backup air horns available.

The Flood Control Coordinator is also responsible for initiating notifications for Flood Alerts, Flood Warnings or Flood Emergencies (discussed in Section 3 of this document). In the event of a Flood Alert, Flood Warning or Flood Emergency, the Flood Control Coordinator should be prepared to determine the need for additional Site personnel, equipment and supplies to assist with foreseeable emergency actions. The Flood Control Coordinator is to communicate this need to Woodard & Curran, Pfizer and, if Site conditions warrant, Bridgewater Township police, fire department and Somerset County Office of Emergency Management officials. A copy of the current Emergency Call List for the Site is provided in Appendix D. The list in this report should updated and be checked annually.

The following essential personnel will be needed in the event of a flood condition:

- Flood Control Coordinator;
- One mobile security guard with ability to assist with immediate Site evacuation upon notification;
- One security guard at the Impound 8 Security Office (monitoring real-time data from Site security cameras), and;
- Two individuals, using the buddy system, to:

1. Perform flood patrols during a Flood Warning;
2. Monitor Site conditions, and;
3. Maintain pump operations at Basin 98, if required.

The Flood Control Coordinator will determine if additional personnel are needed and make arrangements for additional assistance as necessary depending on the urgency of the flood condition. During a flood condition, non-essential personnel (e.g. contractors) should be evacuated from the Site as soon as practicable. In the event of more severe weather (e.g., strong winds or nearby lightning) the Flood Control Coordinator is authorized to issue required evacuations of any and all personnel.

Note: Normal Site wide security patrols by Site Security personnel should be halted in the event of a flood condition (see Section 3).

2.2 SITE OPERATORS

Site Operators are the first line of defense in the event of a Flood Alert, Flood Warning or Flood Emergency (see Section 3). The Site Operators responsibilities include:

- Unlocking and opening required fence gates and inspecting floodgates and equipment during a Flood Alert (see Section 3.1.3 for details);
- Closing floodgates and conducting patrols of flood control works during a Flood Warning (see Section 3.2.3 for details);
- Confirming evacuation of the Southeastern Impoundment Area during a Flood Warning (see Section 3.2.3 for details);
- Securing the Site and preparing for evacuation during a Flood Emergency (see Section 3.3.2 for details);
- Conducting routine and regular inspections of all flood control devices including the Flood Control Berm and floodgates, as designated by the Flood Control Coordinator;
- Storing filled sandbags, empty sandbags and sand at the Impound 8 Facility so that they are readily accessible;
- Ensuring the Concrete Bridge over Cuckhold's Brook in the Southeastern Impoundment Area is unobstructed. Maintenance of this bridge is the responsibility of SRVSA[1];
- Site operators are responsible for checking the bridge and making necessary notifications if it becomes obstructed; once discharge from SRVSA ceases then the O&M Contractor will be responsible for clearing the culverts under the concrete bridge. The SRVSA contractor utilized may be contracted by the O&M Contractor to perform this function.
- Ensuring locks on all gates are functioning;
- Using sandbags as necessary for temporary minor repairs to flood control berms and;

[1] In the near future it is expected that maintenance of the bridge by SRVSA will cease. At that time, Wyeth Holdings Corporation will assume responsibility for maintenance of the bridge. The SRVSA Contractor used to clear the culverts is T.P. Trezza Contractors, the O&M Contractor will work with this contractor or an equivalent.

- Maintain, repair and improve flood protection devices as directed by the Flood Control Coordinator.

2.3 SITE SECURITY

Site Security staff are under direct supervision of the Flood Control Coordinator, or as warranted, by any local authorities with responsibility for ensuring safety at the Site. Site Security is responsible for keeping the Impound 8 Site Security Office manned at all times, unless otherwise directed by the Flood Control Coordinator or local authorities. The Impound 8 Site Security Office will serve as the rally point in the event of an evacuation of the Site. Site Security is responsible for managing the security gate to allow any emergency service vehicles and personnel to enter, or any Site personnel to exit, in the event of a Flood Alert, Flood Warning or Flood Emergency (see Section 3 for descriptions of these conditions). All Site Security Personnel are required to maintain two-way communications and ensure that the radios are in working order. Work on the Site will cease and contractors will be evacuated from the Former Plant Area, the Southwestern and Southeastern Impoundments areas in advance of a flood, or as notified/required by the Flood Control Coordinator.

2.4 CONTRACTORS AND THIRD PARTIES

From time to time there may be activities at the Site which are unrelated to the operations and maintenance program. Contractors and other third parties including consultants are required to comply with the requirements of this FEPP.

Prior to beginning work at the Site, contractors and other third parties must review the requirements of this plan and provide an assessment of their equipment and operations with regard to flood emergency and evacuation procedures. The Flood Emergency Information form in Appendix C shall be completed prior to mobilization by contractors and other third parties. The Flood Emergency Assessment is not required when all of the following conditions apply to contractor and other third party work:

1. Duration of on-site activity is less than two days, and;

2. All equipment to be brought onto the Site can be removed promptly by the contractor or third party, and;

3. There is no threat of a flood condition (Flood Alert, Flood Warning, or Flood Emergency, as described in Section 3 of this FEPP) predicted during the period of time they are working.

3. FLOOD CONDITIONS AND ACTIONS

The following sections outline the three (3) phases of flood conditions and associated actions specific to this Site. The three phases of flood conditions specific to this Site are:

- Flood Alert;
- Flood Warning, and;
- Flood Emergency.

Flood conditions and associated actions are described below:

3.1 FLOOD ALERT - 26 FEET

Efforts will be made to limit the on-site storage of equipment and materials so that flood alert actions will be minimized. The Site infrastructure is being developed to minimize impacts from potential flooding.

3.1.1 Flood Alert Conditions

Flood Alert is the first phase of flood conditions. During a Flood Alert, initial preparations are made to ensure that appropriate actions may be taken in the event of a Flood Warning, Flood Emergency and/or Site evacuation. A Flood Alert is initiated by the Flood Control Coordinator when any one of the following conditions is met:

- Flow rate measured at the Building 104 pump station reaches or exceeds 3,500 gallons per minute[2] (gpm);
- When the AHPS website predicted river stage exceeds 26 feet MSL at the USGS gauging station on the Raritan River at Bound Brook (see Section 2.1);
- A prediction, from the National Weather Service, via any media (television, radio, newspaper, internet) of locally heavy showers, tropical storm or hurricane in the area of the Site, and/or;
- More than one (1) inch of rain has fallen in the past 24 hours, and rain is still falling at a rate of ½-inch per hour or more based on observations on the on-site weather station, Meteorlogix® / Telvent/ MxVision Weather Sentry system as discussed in Section 2.1, and/or local news reports as available.

It should be noted that the AHPS and NWS river stage predictions were found to be inaccurate or delayed in reporting updated conditions during Hurricane Irene in 2011. Therefore, personnel using this FEPP are advised to use conservative judgments regarding potential flood conditions. The safety of personnel and protection of equipment should be considered significantly higher priorities than maintaining ongoing site operations.

The Meteorlogix®/ Telvent meteorological system weather subscription service and staff meteorologist should be consulted by the Flood Control Coordinator to ensure interpretation of the data and decision process is conducted in the most reliable manner erring on the side of safety. The Flood Control

[2] This flow rate will be reevaluated if the storm water system is reconfigured.

Coordinator has the authority to implement the Flood Warning Actions earlier in the event conditions exist that indicated higher than predicted levels could be reached.

3.1.2 Flood Alert – Flood Control Coordinator Actions

During a Flood Alert the Flood Control Coordinator will initiate the following actions:

- On an hourly basis, monitor flood predictions at the Raritan River and upstream Manville gauging stations via the internet and/or Meteorlogix® / Telvent system (see Section 2.1);
- Notify all Site personnel, including visitors, Site operations and security personnel of a Flood Alert;
- Notify the Somerset County Engineering Department (see Appendix D) of a Flood Alert. The Somerset County Engineering Department will close the East floodgate located in the Blue Lot near the northeastern corner of the Site (adjacent to STS);
- Contact backup personnel to ensure they are available to assist if necessary, and;
- Review Flood Emergency Information Forms for any contractor and third party operations.

3.1.3 Flood Alert – Site Operators Actions

During a Flood Alert the Site Operators will initiate the following actions:

- Inspect the South Floodgate, the West Floodgate and the East Floodgate (see Figure 2) and advise the Flood Control Coordinator of the status of each floodgate.
- Unlock and open gates at (see Figure 2):
    1. Northern evacuation route (to facilitate evacuation of key personnel);
    2. Concrete bridge to enable flood monitor inspections (contractors and other non-essential personnel should be evacuated), and;
    3. Lagoon 7 (to facilitate inspections).
- Inspect the northern evacuation route and ensure that it is passable; report results of inspection to Flood Control Coordinator.
- Ensure dedicated Site trucks are fully fueled and operational and required equipment is present including flashlight, gate keys, two-way radios, life vests and bolt cutters.
- Ensure the Kubota tractor is at its base location at the Impound 8 Facility.
- Identify key equipment that may be in use in the Former Plant Area.
- Inspect Former Plant Area for temporary storage of portable materials and/or fuel and arrange to have materials removed to the Impound 8 Facility.
- Fill fuel container in the back of Site pickup truck to be used to fuel portable pumps as needed.
- Halt pumping at Impoundment 4/5, if active, and move treatment components to the Impound 8 Facility (including any chemical feed systems).
- Ensure emergency equipment staged at the Impound 8 Facility is fully fueled and operational. See Table 2-1 for a complete list of flood emergency equipment.

3.1.4 Flood Alert – Site Security

During a Flood Alert, Site Security will initiate the following actions:

- Check emergency equipment that is maintained at the Security Office at Impound 8
- Remove Site Security materials, if any, that are being used at the Former Site Security Office in the Former Plant Area if this area is being used for monitoring and ongoing site activities;
- Review the visitor log and communicate with the Flood Control Coordinator to ensure that all personnel are accounted for, and;
- Ensure that access to the Site via the main gate remains clear (this would be performed by a mobile guard stationed by the Former Site Security Office in the Former Plant Area security center, if ongoing Site activity was taking place that required the use of the on-Site security center)

3.2 FLOOD WARNING - 28 FEET

3.2.1 Flood Warning Conditions

Flood Warning is the second phase of flood conditions. During a Flood Warning, personnel will implement additional monitoring activities, evacuate non-essential personnel and close floodgates as applicable (see Section 3.2.3). A Flood Warning is initiated by the Flood Control Coordinator when any one of the following criteria is met:

- When tropical storm or hurricane conditions are projected by public media to reach the Site within the next 48 hours.
- When the AHPS website predicted river stage exceeds 28 feet MSL within the next 24 hours at the USGS gauging stations on the Raritan River at Bound Brook or upstream at Manville (see Section 2.1);
- More than 2 inches of rain has fallen in the past 24 hours, and rain is still falling at a rate of ½-inch per hour or more based on observations of the on-site weather station, Meterologix® / Telvent MxVision Weather Sentry system or local news reports, as available;
- Water level in Cuckhold's Brook is within 5 feet of the bridge deck at the West Floodgate and rising;
- Water level in Cuckhold's Brook is within 1 foot of the Concrete Bridge deck and rising (when the stream beneath the bridge is unobstructed) and rising, and/or;
- The Raritan River crests at 28 feet MSL.

3.2.2 Flood Warning – Flood Control Coordinator Actions

The Flood Control Coordinator will initiate the following actions in the event of a Flood Warning:

- Direct personnel to discontinue field operations in the Southeastern Impoundment Area. Evacuate personnel, equipment, and hazardous materials/fuel associated with contractor activities from the Southeastern Impoundment Area;

- Direct personnel to shut down the Impoundment 1 and 2 groundwater recovery system and wastewater treatment plant, if safe to do so prior to evacuating the area. System shutdown will include isolating the sodium hydroxide, sulfuric acid and polymer totes by closing tank valves;
- Evacuate non-essential personnel from the Site (the buddy system should be used for evacuation);
- Monitor the USGS Gauging Station via the internet connection on an hourly basis until such time that the Raritan River has subsided below the crest level of 28 feet MSL and is not predicted to rise;
- Arrange for any necessary additional manpower to shut down any active operations as necessary, and to implement flood patrols using the buddy system;
- Confirm the availability of sand bags for minor emergency repairs to flood protection works as necessary;
- Direct Site Operators to shut the Floodgates and initiate flood patrols as discussed below. Ensure two-way radio communication is maintained with flood patrols, and;
- Contact the Somerset County Engineering Department (see Appendix D) and confirm that the East Floodgate has been shut.

3.2.3 Flood Warning – Site Operations Actions

Note: The critical infrastructure at the Site is being constructed in a manner that limits potential for damage during a flood event. The need to access the Former Plant Area during a flood event will be reduced as the new infrastructure becomes operational.

The Site Operators will initiate the following actions in the event of a Flood Warning:

- Ensure the Southeastern Impoundment Area is evacuated. Proceed to the concrete bridge south of the flood protection berm and record the depth to water on the upstream side. Remove debris if present and removal is practicable without entering the water, or endangering personnel.
- Close the South Floodgate - (if open) when the forecasted river flood stage exceeds 28 feet MSL in the next 24 hours or if water is within one foot of the deck of the concrete bridge and rising.
- Secure all doors at the Maintenance Building (Building 1023).
- No flammable/hazardous materials should be stored in the Former Main Plant area or at the Building 1023 maintenance area. A mobile covered trailer will be kept in Building 1023 and designed and dedicated to evacuating any hazardous materials, fuels and other key equipment from the Main Plant that is being used for key work activities.
- Secure the field trailer at the Impound 8 Facility after removing any materials from the Former Main Plant area.
    - If sensitive equipment is in use on the Site, place the equipment into the designated trailer or utility vehicle and remove with the designated field vehicle. This should include:
        - Portable computers;
        - GPS equipment, and;
        - Air monitoring instruments along with calibration kits.

- Evacuate the Former Plant Area and close the West Floodgate when a Flood Warning is triggered or water in Cuckhold's Brook is within 5 feet of the bridge deck and rising (approximately 30 feet MSL). If the West Floodgate requires closure then the Former Plant Area within the Flood Protection Berm must be evacuated; personnel and vehicles brought to the Site will be moved to the Impound 8 Facility. If circumstances require a small number of personnel to remain at the Site then ensure that the northern evacuation route is passable.
- If the high level alarm is triggered or the flow rate at the Building 104 pump station reaches or exceeds 3,500 gpm[3], initiate pumping at Basin 98.
- Two (2) Site Operators, using the buddy system, will use a 4-wheel drive vehicle to patrol the flood control works as follows:

    1. Flood patrols shall only proceed if it is safe to do so. Flood patrols shall discontinue immediately if unsafe conditions develop including but not limited to:

        a. Rapidly rising water levels;

        b. Moving water observed crossing flood patrol route;

        c. High winds, and/or;

        d. Heavy precipitation that restricts visibility.

    2. **All patrols during a Flood Warning require two persons using the buddy system.**

    3. Check and confirm that the vehicle has a working flashlight, gate key, bolt cutters and two-way radio before departing on flood patrol.

    4. Each person will have immediate access to two-way radio communication and will don a life vest prior to beginning each patrol.

    5. **PFDs shall be worn at all times by personnel performing flood patrols.**

    6. **Do not drive vehicles into flooded areas**, especially if the water is moving. Several inches of water may reach the bottom of typical passenger vehicles. One to two feet of water may be enough to float a passenger vehicle, potentially carrying it into deeper water.

    7. Check for signs of erosion, leaks or other potential failures of the Flood Protection Berm that protects the Former Plant Area. Use a two-way radio to advise the Flood Control Coordinator of observations during or immediately upon completion of the inspection.

    8. Check for signs of erosion, leaks or other potential failures of the western portion of the Lagoon 7 Flood Protection Berm that could permit flow from Lagoon 7 into the Raritan River. Use two-way radios to advise the Flood Control Coordinator of observations during or immediately upon completion of the inspection.

    9. Record water levels at the staff gauge located on the northeast side of Lagoon 7. When there is a potential for surface water at Lagoon 7 to come into direct contact with the Raritan River pumping must be halted at Basin 98. Based on currently available data, the Lagoon 7 Flood Protection Berm can overtop at when the staff gauge reads 107 feet

[3] This flow rate will be reevaluated if the storm water system is reconfigured.

(37.78 feet MSL[4]). At 36.86 feet MSL (106 feet 1 inch on the staff gauge), the northern portion of the service road on top of the berm may begin to flood. Following are procedures for inspection of the Lagoon 7 Flood Protection Berm during a Flood Warning:

a. If water level reaches **106'01"** (Site datum) or 36.86 feet MSL, the lowest current elevation identified on the Lagoon 7 Flood Protection Berm, inspections of the berm by vehicle will be halted. At this elevation there is a potential for the road on top of the berm to begin to flood. However, the berm is not expected to overtop until the water level at the staff gauge reaches 106'11**"** (Site datum) or 37.70 feet MSL.

b. Once the level exceeds **106'01"**(Site datum) or 36.86 feet MSL inspections of the Lagoon 7 Flood Protection Berm should be conducted on foot only along the northern portion of the berm and should only proceed to the point where water is reaching the low point in the road. If there is a risk that the road will become flooded, even before the staff gauge reads **106'01"** (Site datum) or 36.86 feet MSL, then vehicles should not drive on it.

c. If the water level in Lagoon 7 reaches **106'11"** (Site datum) or 37.70 feet MSL then pumping at Basin 98 should be halted immediately because the lagoon is now in potential communication with the river and inspections of the Lagoon 7 Flood Protection Berm should be terminated.

d. If during the inspections there is any evidence that the berm may overtop before reaching **106'11"** (Site datum) or 37.70 feet MSL then pumping at Basin 98 should be halted immediately and inspections of the Lagoon 7 Flood Protection Berm should be terminated.

10. If potentially dangerous conditions are encountered during the flood patrol, personnel shall immediately notify the Flood Control Coordinator and return to the Impound 8 Facility or other designated safety area.

11. If trespassers are observed, flood patrol personnel shall immediately notify the Flood Control Coordinator of the location of the trespassers. If safe to do so, flood patrol personnel shall advise the trespassers of the flood condition and to immediately evacuate the area by the appropriate evacuation route. If unable to contact the trespassers the flood patrol shall immediately advise the Flood Control Coordinator who will advise the authorities (i.e. police and/or Office of Emergency Management, as appropriate).

- If caught in a flooded area during the flood patrol and water is rising:

1. Abandon the vehicle, taking the two-way radio and flashlight. **Do not drive the vehicle into moving water or through flooded areas.**

2. Move on foot to a safer location at a higher elevation such as the Flood Protection Berm. Note that flood waters associated with Hurricane Irene in 2011 overtopped the Flood Protection Berm around the Former Plant Area so this should not be considered a safe location.

[4] Note: The staff gauge in Lagoon 7 identifies elevation relative to a Site datum. The Site datum is approximately equal to NGVD plus 69.22 feet.

3. Notify the Flood Control Coordinator as soon as it is safe to do so.
4. If possible, move to the portion of the Flood Protection Berm along the north side of the Site as this is the highest elevation on the Site.
5. If possible, do not walk through any moving water.
6. Moving or standing water can hide obstacles and can create a fall hazard. In the event that walking through water is absolutely necessary, locate an area where the water is shallow and slowest moving. Use a stick, tree branch, or other similar object to test for the firmness of the ground and depth of water in front of you.

3.2.4 Flood Warning –Site Security

During a Flood Warning, Site Security will continue the actions specified for a Flood Alert (see Section 3.1.4).

Under the plans to rebuild the Site, additional remote monitoring and system control capabilities will be built into the critical infrastructure that will enable remote operation of Basin 98 pumps and the groundwater extraction wells PW-2/3. Proposed upgrades to Lagoon 7 will also limit the physical inspections required of Site staff and reduce the need to perform some monitoring during flood events. These efforts will reduce the safety risks from potential flood conditions at the Site. The efforts are underway and will enable such actions as remotely shutting down the B-98 pumps in the event the river rises and comes in connection with Lagoon 7.

3.3 FLOOD EMERGENCY - 33 FEET

Flood Emergency is the third and final phase prior to Site evacuation. During the Flood Emergency phase personnel will secure the Site, shut down operations and prepare for evacuation, should it become necessary. A Flood Emergency is initiated by the Flood Control Coordinator when any one of the following criteria is met.

- When tropical storm or hurricane conditions are projected by public media to reach the Site within the next 24 hours.
- The total 24 hour rainfall in the Raritan River Basin Area exceeds five (5) inches;
- Rainfall for two (2) consecutive hours equals more than one (1) inch per hour;
- Rainfall for one (1) hour exceeds 1.3 inches per hour;
- When a Major Flood Stage is predicted by the National Weather Service within the next 24-hours, and/or;
- When the Raritan River at Bound Brook crests at 33 feet MSL.

3.3.1 Flood Emergency – Flood Control Coordinator Actions

The Flood Control Coordinator will initiate the following actions in the event of a River Flood Emergency:

1. The Flood Control Coordinator will confirm that the three floodgates are closed.

2. The Flood Control Coordinator will arrange a final flood patrol of safely accessible areas and redirect personnel to support Site shut down and evacuation preparations.
3. The Flood Control Coordinator will notify the Somerset County Office of Emergency Management at **(908) 725-5070** or **(908) 231-7000** of a River Flood Emergency.
4. In the event that the forecasted river flood is greater than 33.5 feet within the next 12 hours, the Flood Control Coordinator will initiate Site evacuation as described in Section 4 (see page 4-1).

3.3.2 Flood Emergency – Site Operations Actions

Site Operations will implement the following actions in the event of a River Flood Emergency:

1. Confirm floodgates are closed and secured.
2. Initiate the B-104 Bypass (i.e., re-valve the piping to enable the direct connection of the effluent force main to connect directly to SRVSA).
3. Check if water level in Lagoon 7 has reached the river. If so, halt pumping at Basin 98.

3.3.3 Flood Emergency –Site Security

During a Flood Emergency, Site Security will continue the actions specified for a Flood Alert (see Section 3.1.4). In addition, Site Security will communicate with the Flood Emergency Coordinator to prepare for evacuation. This will include relocation of personnel and vehicles to the Impound 8 Facility as discussed in Section 3.2.3.

4. SITE EVACUATION

4.1 SITE EVACUATION CONDITIONS

For purposes of this FEPP, the term Site Evacuation refers to evacuation of flood prone areas of the Site (i.e. Former Plant Area, Southeastern Impoundment Area and Southwestern Impoundment Area). Site evacuation will be initiated under the following flood conditions:

- Conditions necessitate closure of the West Floodgate (contractors gate location);
- When tropical storm or hurricane conditions are projected by public media and/or contracted weather services to reach the site within the next 12 hours;
- Predicted crest of the Raritan River at Bound Brook within the next 12 hours is greater than 38 feet MSL (approximately 107 feet relative to the Site-specific datum), which is approximately one foot below the lowest point of the Flood Protection Berm;
- Significant damage and/or seeps are observed during patrols of the Flood Protection Berm, or;
- When required to evacuate by local authorities.

If storm conditions produce winds sufficient to endanger the stability of the Impound 8 Facility office trailers then all personnel shall evacuate the entire Site immediately. Provisions at a local hotel (Bridgewater Hilton Garden Inn or similar) will be provided in the event of a major storm. Evacuation of the office trailers is required when sustained winds exceed 65 miles per hour (mph) or wind gusts exceed 85 mph.

The two-way radios will be used to notify personnel of evacuation. Receipt of instructions to evacuate must be confirmed. **Personnel shall evacuate immediately when instructed to do so by the Flood Control Coordinator.** Ignoring such instructions shall be considered a direct and willful violation of the Site safety program and may result in permanent expulsion from future Site operations and disciplinary actions.

If all personnel cannot be contacted by radio an emergency signal shall be used to alert personnel of the need to evacuate the Site. As described in the Site Health and Safety Plan, **the emergency signal for the Site is three sustained blasts** from a vehicle horn or air horn. The air horn is maintained at the Site Security Office. The Primary and Alternate Flood Control Coordinators should also maintain backup air horns.

The set of criteria listed above establishes the key set of criteria that triggers Site evacuation. Because most flood events only affect portions of the Site (the lower elevation areas and areas outside the flood protection berms) evacuation guidelines for some specific areas differ depending on the location of the Site. **For example, evacuation of the Southeastern Impoundment Area will be triggered earlier than evacuation of the Former Plant Area.**

4.1.1 Former Plant Area (see criteria above)

The primary evacuation route from the Former Plant Area is via the West Floodgate, at the western side of the Former Plant Area. The northern gate shall serve as an alternate evacuation route in the event that travel through the West Floodgate is unsafe. Note: the northern evacuation route is along the New Jersey

Transit Railroad line and this route is only intended from emergency evacuation in the event the route to the West Floodgate is not accessible.

The rally point in the event of a Site evacuation is the Impound 8 Facility Site Security Office. The primary evacuation from the Former Plant Area within the Flood Protection Berm is through the West Floodgate before it is shut.

Personnel are reminded to travel at safe speeds at all times during Site evacuation. Do not attempt to evacuate vehicles through the main entrance near the northeastern corner of the site as the railroad underpass will likely be flooded at this point. Do not attempt to drive vehicles onto or across the railroad tracks except for safe crossing of the tracks at designated grade crossing. If the evacuation route becomes impassable by vehicle then abandon the vehicle and proceed to the rally point on foot.

4.1.2 Southeastern Impoundment Area (elevation 28 feet)

The primary evacuation route from the Southeast Area is through the South Floodgate over the railroad tracks once the Conrail crossing is restored and then following the evacuation plan for the Former Plant Area.

Until this railroad crossing is reestablished the evacuation should follow the route listed under the Southwestern Impoundment Areas (see below). Note; the crossing at Cuckhold's Brook near the concrete bridge and the nearby access road flood first and will make this route impassable. **Therefore, evacuation from this area is required under the Flood Warning.**

Under a flood warning (see Section 3.2.1) direct personnel to discontinue field operations. Evacuate personnel, equipment, and hazardous materials/fuel associated with contractor activities, including the Impoundment 1 and 2 groundwater recovery system and wastewater treatment plant, from the Southeastern Impoundment Area. Note: the crossing at Cuckhold's Brook near the concrete bridge floods first and will make this route impassable. **Therefore, evacuation from this area is required under the Flood Warning before the route becomes impassable.** Should the roadway become impassable during evacuation personnel should assess whether they can remain in the vehicle and radio for help. If flood waters are rising and the bridge is impassable then personnel east of Cuckhold's Brook should move by foot to the higher ground afforded by the main plant flood protection berm and travel east to the STS property. If already west of the concrete bridge, personnel should continue west to Bufflehead Road. Personnel traveling on foot during an evacuation must remain in radio contact with the Flood Control Coordinator or designee**.**

4.1.3 Southwestern Impoundment Area (elevation 28 feet)

The Southwestern Impoundment Area is separated from the Former Plant Area by Cuckhold's Brook and is crossed by Bufflehead Road. The Southwestern Impoundment area includes Former Lagoon 6, Lagoon 7, and Impoundments 11, 12, 13 and 24.

Evacuation of this area is up Bufflehead Road to the Security Center at the Impound 8 Facility

4.1.4 Impound 8 Facility – Operations Center and Security Office

The Impound 8 Facility is located at an elevation that is not anticipated to flood. The Impound 8 Facility is at a base elevation of 115 feet (Site datum) or approximately 46 feet MSL. The area would be evacuated if conditions become unsafe such as the high wind conditions discussed in Section 4.1, above.

4.2 SITE EVACUATION – FLOOD CONTROL COORDINATOR ACTIONS

The Flood Control Coordinator will implement the following actions in the event of a Flood Evacuation

1. Ensure all Site personnel, including visitors, have been notified of the need to evacuate. The list of on-site personnel shall be maintained at the Impound 8 Site Security Office.
2. Instruct personnel to proceed to the rally point at the Impound 8 Facility Site Security Office. If all personnel are not accounted then missing individuals will be identified and the Flood Control Coordinator or designee will attempt contact by radio and/or cell phone. If missing individuals cannot be contacted and are suspected missing or trapped (e.g. unaccounted individual's vehicle and personal belongings are present), the Flood Control Coordinator or designee shall notify the police immediately.
3. As needed, the Flood Control Coordinator will coordinate a phased shutdown of the electrical systems. First, the local disconnect switches will be thrown on equipment not needed during the flood event. Second the cutout on 8th Street will be thrown to eliminate power to the portions of the Site not associated with the production wells. If needed, a shut down of all electrical operations can be performed by throwing the cutout located near the Northern gate and/or by notifying PSE&G to shut down the power supply located on Main Street. This power shut down will cause all electrical power to the Site to be cut off. The Emergency Number for PSE&G is **800-436-7734. PSE&G Customer Support is available at 1-800-664-4761 and should be called immediately if there is no response at the Emergency Number (i.e. recorded response only).** The PSE&G Account Number is needed for power shut down. The current account number for the site is **42 094 501 03**.

4.3 SITE EVACUATION – SITE OPERATIONS ACTIONS

When notified by the Flood Control Coordinator of the need to evacuate proceed directly to the rally point at the Impound 8 Facility.

If travel from the Former Plant Area through the West Floodgate is obstructed then Site Operations shall immediately notify the Flood Control Coordinator and proceed to the northern gate to complete evacuation of the Main Plant Area. If the rally point is selected then Site Operations personnel shall proceed immediately to the rally point via the primary evacuation route (West Floodgate) or alternate evacuation route (Northern Gate). **Do not attempt to leave the Former Plant Area via the main entrance**.

4.4 SITE EVACUATION – SITE SECURITY ACTIONS

Site Security personnel will communicate with the Flood Control Coordinator to ensure that all personnel are accounted for before evacuating the Site. Do not attempt to leave the Former Plant Area via the main entrance.

5. PLAN AMENDMENTS AND REVIEW

5.1 AMENDMENTS AND UPDATES TO THE FLOOD EMERGENCY PROCEDURES PLAN

This plan shall be reviewed and amended and/or updated as necessary when operations at the Site change. Following any flood event, this plan shall be reviewed by the project team and updated as applicable to address any lessons learned. Anticipated changes could include implementation of future remedial actions, modifications of the overall Site operations program and/or changes in project personnel. Modifications to any equipment or facilities identified in this plan shall be documented and the plan shall be amended or updated accordingly.

Amendments to this plan shall be identified below:

Amendment Number	Amendment Date	Amendment Prepared By (Print Name)	Amendment Approved By (Print Name)
001	11/2011	Jason Schindler – W&C	
002	03/2012	Jason Schindler – W&C	

Attach Additional sheets if necessary. Check here if additional sheets are attached: ☐

5.2 PLAN REVIEW

As part of overall Site flood protection maintenance, the Flood Control Coordinator will review the Flood Emergency Procedures Plan annually and whenever Site operations change. The plan should be updated as necessary. Updates shall be documented as described in Section 5.1. The Flood Control Coordinator will document the review of the Flood Protection Plan by signing off with name and date.

Review Date	Plan Reviewed By Flood Control Coordinator (Print Name)	Signature

Attach Additional sheets if necessary. Check here if additional sheets are attached: ☐

6. REFERENCE INFORMATION

This section provides references that may be useful during a flood event. The references provided include:

- Contact List
- Definitions of the four National Weather Service flood categories
- Reference elevations for Site features and river flood stages
- Site-specific equipment associated with this Flood Emergency Procedures Plan
- Glossary

6.1 CONTACT LIST

A copy of the current Emergency Call List for the Site is included in Appendix D.

6.2 NATIONAL WEATHER SERVICE FLOOD CATEGORIES

The National Weather Service has identified four (4) flood categories.

Action Stage: typically at this level, the water surface is generally over the top of its banks, but no man-made structures are flooded; typically water overflowing is limited to parkland and marshland.

(Minor) Flood Stage: minor flooding is expected at this level. Few, if any, buildings are expected to be inundated, however, roads may be covered with water, parklands and yards may be inundated and water may go under buildings on stilts or higher elevations.

Moderate Flood Stage: inundation of buildings begins at this stage. Roads are likely to be closed and some areas cut off. Some evacuations may be necessary.

Major Flood Stage: significant to catastrophic, life-threatening flooding is expected at this stage. Extensive flooding with some low-lying areas completely inundated is likely. Structures may be completely submerged. Large-scale evacuations may be necessary.

6.3 NATIONAL WEATHER SERVICE FLOOD REFERENCE ELEVATIONS

Based on these general categories outlined by the National Weather Service, the following Raritan River at Bound Brook flood stages are pertinent to the Site:

- Action Stage – 26 feet, equal to Flood Alert condition discussed in the FEPP
- Minor Flood Stage – 28 feet, equal to Flood Warning condition discussed in the FEPP
- Moderate Flood Stage – 30 feet
- Major Flood Stage – 33 feet, equal to Flood Emergency condition discussed in the FEPP

Table 6-1 presents a summary of reference elevations for key Site features associated with potential flood events. Elevations are presented relative to both NGVD29 and a Site-specific datum established by previous engineers.

6.4 FLOOD EMERGENCY EQUIPMENT

Table 2-1 identifies equipment and materials that should be maintained at the Site in the event of a flood. Equipment types and locations are indicated for reference during a flood event and for periodic surveys prescribed by this plan.

6.5 GLOSSARY

AHPS:	National Weather Service Advanced Hydrologic Prediction Service website http://water.weather.gov
Brook	Refers to Cuckhold's Brook and Middle Brook
East Floodgate:	Floodgate located at the northeast corner of the Blue Lot bordering Somerset Tire Service
FEPP	Flood Emergency Procedures Plan
Flood Alert:	The initial stage of a potential flood crisis.

Flood Control Coordinator: Individual having overall responsibility for the flood control procedures.

Flood Emergency:	The third and final stage of potential flood crisis. Refers to both river and brook floods.
Flood Protection Berm:	Earthen berm surrounding Former Plant Area
Flood Warning:	Second stage of a potential flood crisis. Refers to both river and brook floods.
Floodgate:	Hinged wooden gates located at eastern, western and southeastern Site entrances that are closed to effectively seal up these openings in the Flood Protection Berm.
South Floodgate:	River Pump House Entrance in southern portion of Former Plant Area
West Floodgate	Former Contractor's Entrance in western portion of Former Plant Area
FMRP	Flood Management and Response Plan
Former Plant Area	Central and Eastern portion of the Site surrounded by the Flood Protection Berm and floodgates.
Impound 8 Facility	Western portion of the Site outside of the flood hazard area
Lagoon 7:	Stormwater management lagoon located in the southwestern portion of the Site.
NGVD29	National Geodetic Vertical Datum of 1929
NWS:	National Weather Service

Raritan River: River south of the Site into which Cuckhold's Brook and Middle Brook flow.

Southeastern Impoundment Area Southeastern portion of the Site in the Raritan River floodplain outside of the Flood Protection Berm.

Southwestern Impoundment Area Southwestern portion of the Site in the Raritan River floodplain outside of the Flood Protection Berm.

6.6 FLOOD EMERGENCY PROCEDURES PLAN DISTRIBUTION

Copies of this FEPP shall be maintained on the Site by the Flood Control Coordinator. Controlled copies will be maintained at key locations and for use by third parties as applicable (see Section 2.4). Upon completion of their work, third parties shall return any issued copies of this FEPP to the Flood Control Coordinator. Following are the controlled copies of this FEPP:

Copy	Location	Maintained By
Master	Woodard & Curran Field Office	Flood Control Coordinator
1	Pfizer Records Management	Pfizer /Quantum
2	Quantum Field Office	Pfizer / Quantum
3	Woodard & Curran Records Management	Woodard & Curran
4	On-site Security Office	Flood Control Coordinator
5	Impound 8 Security Office	Flood Control Coordinator
6	Maintenance Building 1023	Site Operations
7	4-Wheel Drive Inspection Vehicle	Site Operations
8	Contractor/Third Party Copy 1	Flood Control Coordinator
9	Contractor/Third Party Copy 2	Flood Control Coordinator
10	Contractor/Third Party Copy 3	Flood Control Coordinator
11	Contractor/Third Party Copy 4	Flood Control Coordinator
12	Contractor/Third Party Copy 5	Flood Control Coordinator
13	Contractor/Third Party Copy 6	Flood Control Coordinator
14	Contractor/Third Party Copy 7	Flood Control Coordinator
15	Contractor/Third Party Copy 8	Flood Control Coordinator
16	Contractor/Third Party Copy 9	Flood Control Coordinator
17	Contractor/Third Party Copy 10	Flood Control Coordinator
18	USEPA Region II	USEPA Region II

TABLES

Table 2-1. Emergency Equipment List
Flood Emergency Procedures Plan
Former American Cyanamid Bound Brook Facility
Bridgewater, New Jersey

Location	Equipment	Minimum Quantity	Purpose
Impound 8 Facility	Boat	1	Boat with motor for inspections
Impound 8 Facility	Diesel Fuel	5 gal	Fuel on hand for tractor
Impound 8 Facility	First Aid Kit	1	First aid
Impound 8 Facility	Flashlight	2	Emergency use; water-resistant equipment required
Impound 8 Facility	Gasoline	20 gal	Fuel on hand for trucks
Impound 8 Facility	Life vests	2	For use during flood patrols
Impound 8 Facility	Sand	2 yd^3	Fill empty sandbags
Impound 8 Facility	Sand Bags-Empty	200	Minor repairs to flood protection systems (when filled)
Impound 8 Facility	Sand Bags-Filled	100	Minor repairs to flood protection systems
Impound 8 Facility	Shovel	2	Fill empty sandbags; clear debris from flood gates during flood patrols
Impound 8 Facility	Spare Batteries	12	For flashlights
Impound 8 Facility	Steel Rake	2	Clear debris from flood gates during flood patrols
On-Site Security Shed	Two-way radio	1	Emergency communication by Site Operations personnel
On-Site Security Shed	Two-way radio	1	Emergency communication at flood emergency Rally Point
Site Security Office	Bolt cutters	1	Remove frozen locks
Site Security Office	FEPP	1	Reference copy of Flood Emergency Procedures Plan
Site Security Office	First Aid Kit	1	First aid
Site Security Office	Flashlight	2	Emergency use; water-resistant equipment required
Site Security Office	Life vests	2	For use during flood patrols
Site Security Office	Spare Batteries	4	For flashlights
Site Security Office	Two-way radio	4	Emergency communication by Security Personnel
Site Security Office	Vistor Log	1	Record of personnel onsite for use during emergency
Vehicle 1 - Chevrolet Pickup	Bolt cutters	1	Remove frozen locks
Vehicle 1 - Chevrolet Pickup	First Aid Kit	1	First aid
Vehicle 1 - Chevrolet Pickup	Flashlight	1	Emergency use; water-resistant equipment required
Vehicle 1 - Chevrolet Pickup	Gate keys	1	Open gates at northern exit, Lagoon 7 and concrete bridge
Vehicle 1 - Chevrolet Pickup	Life vests	2	For use during flood patrols
Vehicle 2 - Ford Pickup	Bolt cutters	1	Remove frozen locks
Vehicle 2 - Ford Pickup	First Aid Kit	1	First aid
Vehicle 2 - Ford Pickup	Flashlight	1	Emergency use; water-resistant equipment required
Vehicle 2 - Ford Pickup	Gate keys	1	Open gates at northern exit, Lagoon 7 and concrete bridge
Vehicle 2 - Ford Pickup	Life vests	2	For use during flood patrols
Vehicle 3 - Ford Escape SUV	Bolt cutters	1	Remove frozen locks
Vehicle 3 - Ford Escape SUV	First Aid Kit	1	First aid
Vehicle 3 - Ford Escape SUV	Flashlight	1	Emergency use; water-resistant equipment required
Vehicle 3 - Ford Escape SUV	Gate keys	1	Open gates at northern exit, Lagoon 7 and concrete bridge
Vehicle 3 - Ford Escape SUV	Life vests	2	For use during flood patrols
Woodard & Curran Office Trailer	Air Horn	1	Emergency use
Woodard & Curran Office Trailer	Camera	1	Photo-Document annual flood protection inspection
Woodard & Curran Office Trailer	e-mail receiver	1	Receive weather updates from Metrologix every four hours
Woodard & Curran Office Trailer	FEPP	1	Control copy of Flood Emergency Procedures Plan
Woodard & Curran Office Trailer	First Aid Kit	1	First aid
Woodard & Curran Office Trailer	Flashlight	2	Emergency use; water-resistant equipment required
Woodard & Curran Office Trailer	Gate keys	1	Open gates at northern exit, Lagoon 7 and concrete bridge
Woodard & Curran Office Trailer	Life vests	2	For use during flood patrols
Woodard & Curran Office Trailer	Portable Computer	1	Internet connection to monitor Raritan River at Bound Brook gauging station
Woodard & Curran Office Trailer	Spare Batteries	12	For flashlights and Davis Weather Station
Woodard & Curran Office Trailer	Two-way radio	1	Emergency communication by Flood Control Coordinator

Table 6-1. Facility Reference Elevations
Former American Cyanamid Bound Brook Facility
Bridgewater, New Jersey

Feature	Avg Elevation (Site Datum)	Minimum Elevation (Site Datum)	Avg Elevation NGVD29	Minimum Elevation (NGVD29)	Note	Source
Site Access						
Impound 8 Facility		115		45.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Railroad crossing at north end of Bufflehead Road		118		48.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Cuckhold's Brook Bridge at West Floodgate		109.7		40.41	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Railroad crossing at south end of Bufflehead Road		109.5		40.21	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Railroad Crossing at South Flood Gate		106		36.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Railroad Crossing at STS Access Road		109		39.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Concrete Bridge over Cuckholds Brook		98		28.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
West Floodgate: Former Contractors Gate/Gate 8						
Road Elevation		104.5		35.3	(c)	ACCO Drawing 3-333708
Top of Dike elevation		113.5		44.3	(c)	ACCO Drawing 3-333708
South Floodgate Former Gate 4: Railroad Crossing at southeastern portion of site						
Road Elevation		105.9		36.7	(c)	ACCO Drawing 3-333708
Top of Dike elevation		109.5		40.3	(c)	ACCO Drawing 3-333708
Site Features						
Flood Protection Berm		107		37.71	(d)	Vargo Associates ALTA/ACSM Land Title Survey, March 14, 2011
Treatment Plant Platform		112		42.71	(a)	
Impoundment 1	106	105.5	36.71	36.21	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 2	106.5	106	37.21	36.71	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 11	108	105.6	38.71	36.31	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 12	109	105.6	39.71	36.31	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 15	103	98.8	33.71	29.51	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 16	103	98.8	33.71	29.51	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 17	105	103	35.71	33.71	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Impoundment 18	105	103	35.71	33.71	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Lagoon 6	110	109.2	40.71	39.91	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Lagoon 7	110	106.1	40.71	36.81	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010

Table 6-1. Facility Reference Elevations
Former American Cyanamid Bound Brook Facility
Bridgewater, New Jersey

Feature	Avg Elevation (Site Datum)	Minimum Elevation (Site Datum)	Avg Elevation NGVD29	Minimum Elevation (NGVD29)	Note	Source
Historical Flood Data						
500-year flood elevation	111.9	111.9	42.61	42.61	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
100-yr flood elevation	109.1	109.1	39.81	39.81	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
50-yr flood elevation	107.6	107.6	38.31	38.31	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Hurricane Floyd flood elevation	111.42	111.42	42.13	42.13	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Northeast Storm Flood Elevation	107.67	107.67	38.38	38.38	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Hurricane Doria Flood Elevation	106.76	106.76	37.47	37.47	(a)	OBG Overall Facilty Plan Property Limits, Fencing & Flood Berms, Figure 1, April 2010
Hurricane Irene Flood Elevation	111.19	111.19	41.90	41.90	(a)	NWS AHPS Raritan River at Bound Brook
National Weather Service Flood Stages: Raritan River at Bound Brook						
Major Flood Stage	102.29	102.29	33	33	(b)	NWS AHPS Raritan River at Bound Brook
Moderate Flood Stage	99.29	99.29	30	30	(b)	NWS AHPS Raritan River at Bound Brook
Flood Stage	97.29	97.29	28	28	(b)	NWS AHPS Raritan River at Bound Brook
Action Stage	95.29	95.29	26	26	(b)	NWS AHPS Raritan River at Bound Brook
Historical Crests: Raritan River at Bound Brook						
9/17/1999	111.42	111.42	42.13	42.13	(b)	NWS AHPS Raritan River at Bound Brook
8/28/2011	111.19	111.19	41.90	41.90	(b)	NWS AHPS Raritan River at Bound Brook
4/16/2007	107.67	107.67	38.38	38.38	(b)	NWS AHPS Raritan River at Bound Brook
8/28/1971	106.76	106.76	37.47	37.47	(b)	NWS AHPS Raritan River at Bound Brook
3/14/2010	105.33	105.33	36.04	36.04	(b)	NWS AHPS Raritan River at Bound Brook
10/20/1996	104.87	104.87	35.58	35.58	(b)	NWS AHPS Raritan River at Bound Brook

Notes

(a) Source elevation provided relative to OBG Site Datum NGVD29 plus 69.29 feet

(b) NGVD29 Elevation provided, adjusted to OBG Site Datum

(c) Source elevation provided relative to ACCO Site Datum NGVD plus 69.188 feet

(d) Source elevation interpreted from site-wide topographic map prepared by Vargo Associates

OBG: O'Brien & Gere

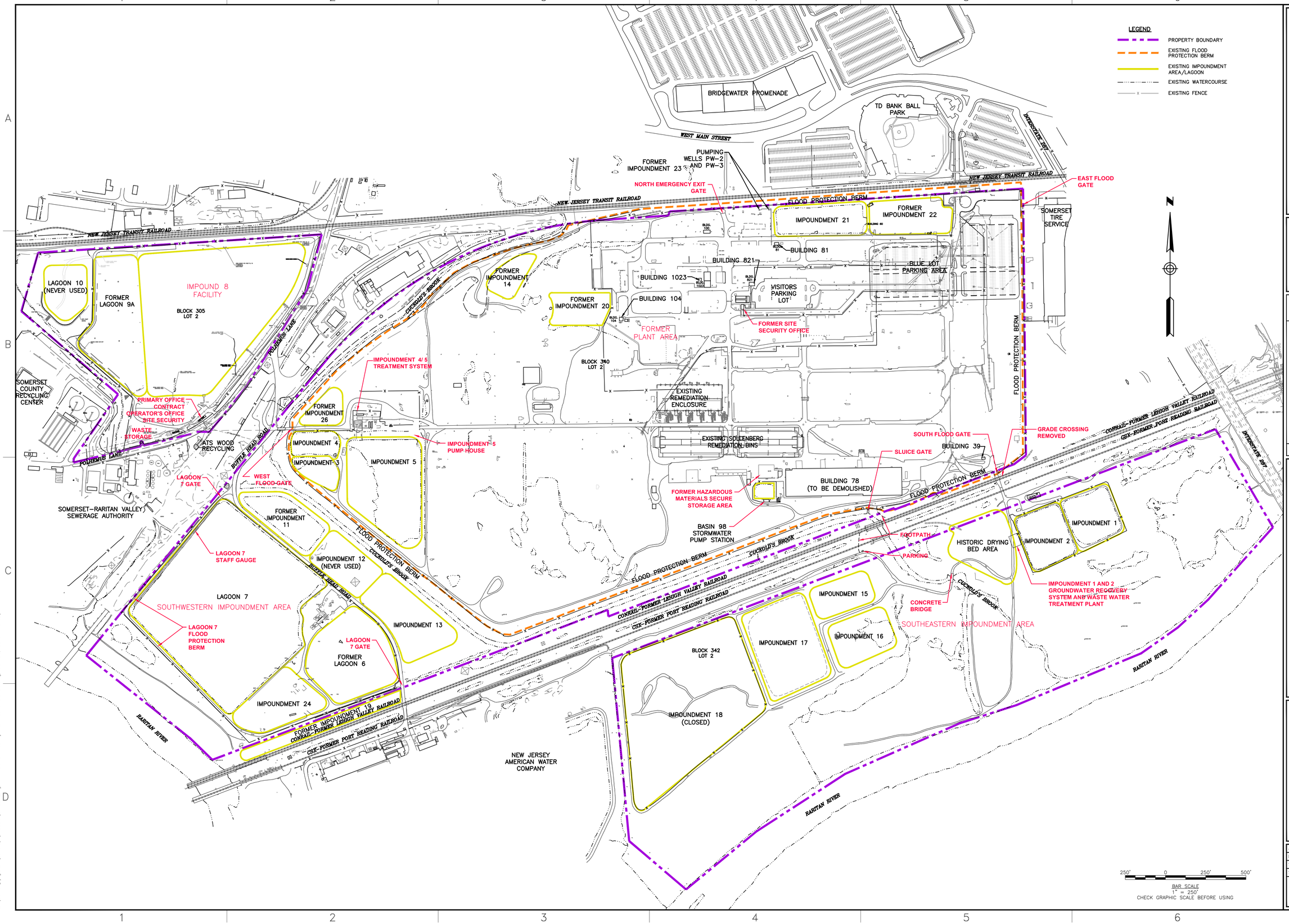
NWS: National Weather Service

AHPS: Advanced Hydrologic Prediction Service website (http://water.weather.gov)

NGVD29: National Geodetic Vertical Datum of 1929

FIGURES

24x36 SHEET
1:1



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COMMITMENT & INTEGRITY DRIVE RESULTS

REV	DESCRIPTION	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
21707_Figure 1-Overall Facility Plan-2012-03-22.dwg

FIGURE -1 OVERALL SITE PLAN WYETH HOLDINGS CORPORATION/ AMERICAN CYANAMID SUPERFUND SITE BRIDGEWATER, NEW JERSEY

JOB NO.: 217207
DATE: DECEMBER 2011
SCALE: 1"=250'
SHEET: 1 OF 1

FIGURE 1

C:\Users\pjogiekon\Desktop\217207\217207_Figure 1-Overall Facility Plan-2012-03-22.dwg, Mar 22, 2012 - 2:03pm

24x36 SHEET
1:1

LEGEND

- PROPERTY BOUNDARY
- ALTERNATE EVACUATION ROUTE FOR FORMER PLANT AREA VIA NORTHERN GATE
- PRIMARY EVACUATION ROUTE FROM SOUTHEASTERN AND SOUTHWESTERN IMPOUNDMENT AREAS
- PRIMARY EVACUATION ROUTE FOR FORMER PLANT AREA VIA CONTRACTORS BRIDGE AND FLOOD GATE 8
- EXISTING FLOOD PROTECTION BERM
- EXISTING IMPOUNDMENT AREA/LAGOON
- EXISTING WATERCOURSE
- EXISTING FENCE
- EXISTING LIMITS OF DELINEATED WETLANDS
- EXISTING LIMITS OF WETLANDS TRANSITION AREA
- EXISTING RIPARIAN ZONE BOUNDARY
- EXISTING FLOOD FRINGE BOUNDARY

BRIDGEWATER PROMENADE
WEST MAIN STREET
COMMERCE BANK BALL PARK
INTERSTATE 287
NEW JERSEY TRANSIT RAILROAD
FORMER IMPOUNDMENT 23
NORTHERN EVACUATION ROUTE GATE
FLOOD PROTECTION BERM
EAST FLOODGATE
IMPOUNDMENT 21
FORMER IMPOUNDMENT 22
SOMERSET TIRE SERVICE
LAGOON 10 (NEVER USED)
FORMER LAGOON 9A
IMPOUND 8 FACILITY
CELL 4
CELL 3
CELL 2
CELL 1
BLOCK 305 LOT 2
CONCRETE BRIDGE AND SOUTH FLOODGATE
CUCKOLD'S BROOK
FORMER IMPOUNDMENT 14
BLOCK 340 LOT 2
EXISTING REMEDIATION ENCLOSURE
SOMERSET COUNTY RECYCLING CENTER
IMPOUNDMENT 8 OFFICE TRAILER AREA ON SITE RALLY POINT
POLHEMUS LANE
ATS WOOD RECYCLING
BUFFALO HEAD ROAD
FORMER IMPOUNDMENT 26
IMPOUNDMENT 4
IMPOUNDMENT 3
IMPOUNDMENT 5
LAGOON 7 GATE
SOMERSET-RARITAN VALLEY SEWERAGE AUTHORITY
FORMER IMPOUNDMENT 11
IMPOUNDMENT 12 (NEVER USED)
FLOOD PROTECTION BERM
CUCKOLD'S BROOK
BUFFALO HEAD ROAD
LAGOON 7
IMPOUNDMENT 13
FORMER LAGOON 6
LAGOON 7 GATE
IMPOUNDMENT 24
FORMER IMPOUNDMENT 19
CONRAIL-FORMER LEHIGH VALLEY RAILROAD
CSX-FORMER PORT READING RAILROAD
RARITAN RIVER
ELIZABETHTOWN WATER COMPANY
BUILDING 78
BASIN 9B
FLOOD PROTECTION BERM
SOUTH FLOODGATE
CONCRETE BRIDGE
IMPOUNDMENT 1
IMPOUNDMENT 2
IMPOUNDMENT 15
IMPOUNDMENT 16
IMPOUNDMENT 17
BLOCK 342 LOT 2
IMPOUNDMENT 18 (CLOSED)
RARITAN RIVER
CONRAIL-FORMER LEHIGH VALLEY RAILROAD
CSX-FORMER PORT READING RAILROAD
INTERSTATE 287

250' 0 250' 500'
BAR SCALE
1" = 250'
CHECK GRAPHIC SCALE BEFORE USING

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COMMITMENT & INTEGRITY DRIVE RESULTS

REV	DESCRIPTION	DATE
	DESIGNED BY:	
	DRAWN BY:	
	CHECKED BY:	

217207_Figure 2_Emergency Evacuation Route-2011-12-5.dwg

EMERGENCY EVACUATION ROUTE

JOB NO.: 217207
DATE: DECEMBER 2011
SCALE: 1"=250'
SHEET: 1 OF 1

FIGURE 2

\\PORTLAND\Projects1\217207 Pfizer Bound Brook\wip\CAD\Figures\FEPP-HWCP Figures\Current\217207_Figure 2_Emergency Evacuation Route-2011-12-5.dwg, Dec 05, 2011 - 4:40pm

APPENDIX A: NATIONAL WEATHER SERVICE GUIDE TO INFORMATION ON THE WEB

NOAA'S NATIONAL WEATHER SERVICE

Guide to Hydrologic Information on the Web

Colorado River at Lees Ferry

Photo: courtesy Tim Helble

Your gateway to web resources provided through NOAA's Advanced Hydrologic Prediction Service begins here:

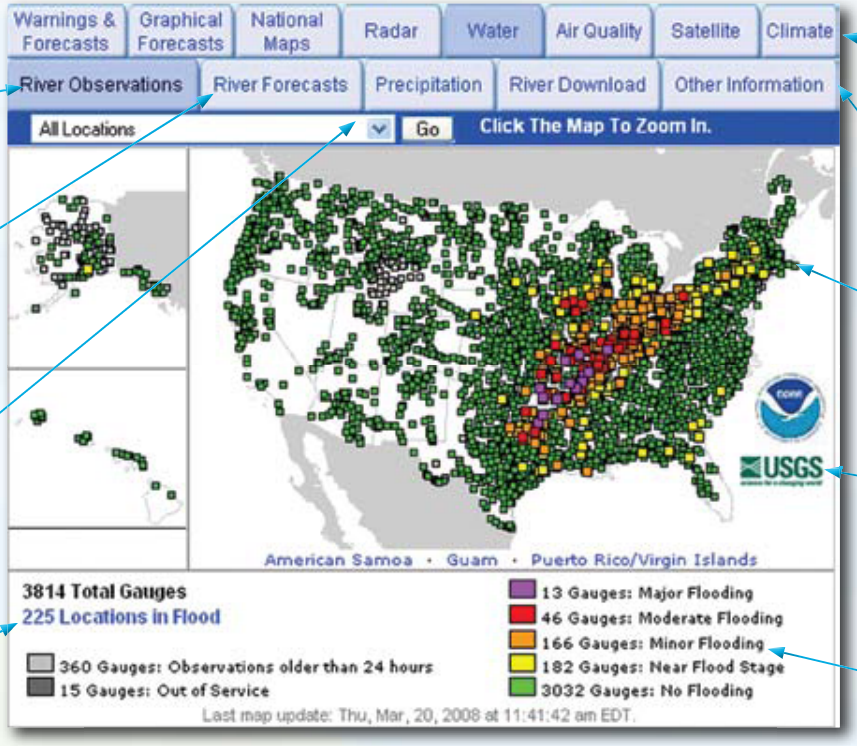
http://water.weather.gov

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service
July 2008

NOAA/PA 200850

National Map

This web page shows the flood status at all National Weather Service river forecast locations.



Clicking on this tab shows locations where ***observations*** are available, color coded according to their current flood status.

Clicking on this tab shows locations where ***forecasts*** are available, color coded according to highest forecast for the next two days.

Allows user to display all locations, hydrograph only locations, hydrograph/probability forecast locations, and inundation map locations.

Click here to only display locations currently in flood.

First row shows options available on the NWS home page.

Second row shows options available under the "Water" category.

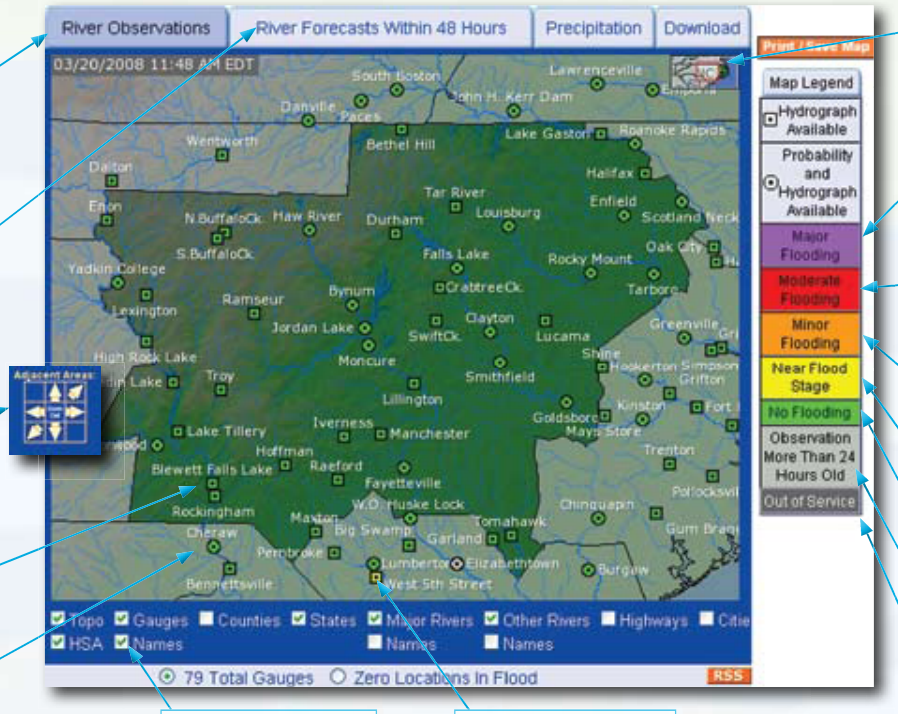
Clicking on any location brings up a regional map containing that location.

NWS river forecasts and flood products are critically dependent on the USGS stream gaging network.

Color coding scheme used on map locations to indicate flood status. Click on colored box and only points in that category are displayed.

Regional Map

This web page shows the flood status of river forecast locations in the selected region. Selecting a specific river/stream location provides access to localized information.



Clicking on this tab shows locations where ***observations*** are available, color coded according to their current flood status.

Clicking on this tab shows locations where ***forecasts*** are available, color coded according to highest forecast for the next two days.

Navigation arrows allow user to move to neighboring regions.

Squares indicate locations with observed hydrograph plots, some which include near-term forecasts. Circles are used for locations that also have forecast uncertainty information out to several months.

User selectable overlays.

Color of icon indicates category of flooding.

Area of interest in relation to state boundaries.

Extensive inundation of structures and roads. Significant evacuations of people and property.

Some inundation of structures and roads near stream – some evacuations of people and property.

Minimal or no property damage, but possibly some public threat.

River or stream level approaching flood stage.

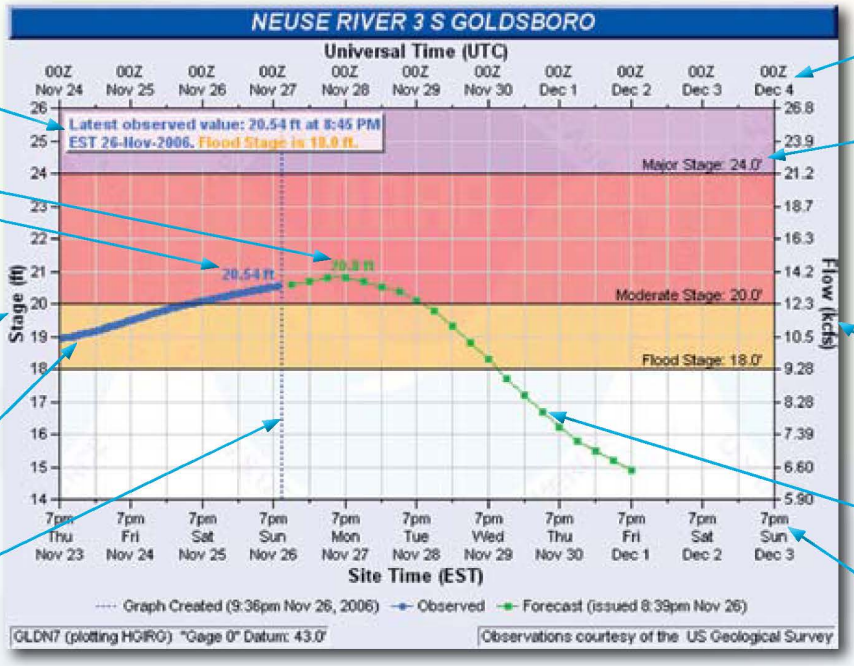
River or stream level below flood stage.

No data received from this site in at least 24 hrs.

River or stream gauge is not operating.

Hydrograph

The hydrograph is the first graphic displayed after clicking on a specific river/stream location on the regional map. It provides recent observations and for many points a forecast for the next few days. Tabs at the top of the hydrograph allow a user to display other graphical information for the river/steam location.



Latest observed stage with time and date. Flood stage is included if available.

Peak observed and forecast stages during time period covered by graph.

Scale for indicating water level in terms of stage in feet (ft).

Observed trace – indicates water level trends over past several days.

Vertical line marks the current viewing time.

Coordinated Universal Time (UTC) scale.

Color coded flood categories for location being viewed, with stage where each category starts. Flood severity color scheme is consistent throughout these web pages.

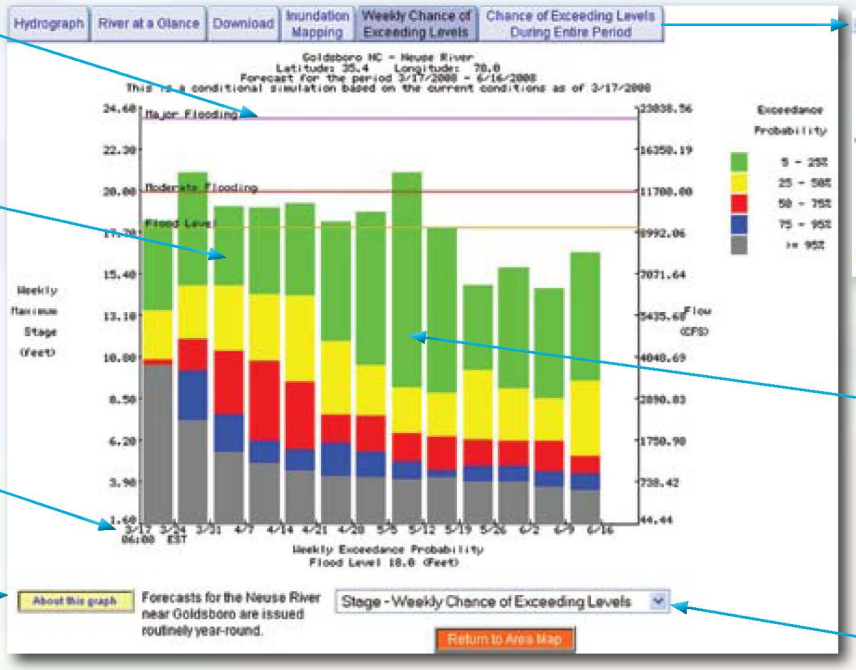
Scale for indicating water level in terms of flow in thousands of cubic feet per second (kcfs).

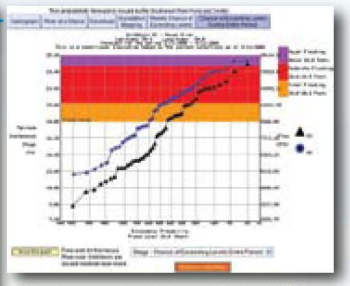
Forecast trace – shows expected water level trend over next few days.

Local time scale.

Weekly Chance of Exceeding Levels

This graphic provides the probability of exceeding various river/stream levels during the next three months given the weather patterns in past years and the best available long-term forecasts.





On the web, click on "About this graph" for description of this plot

Lines for flood category levels use the same color scheme shown on the flood hydrograph and other web pages.

Each colored section of vertical bar represents a range of probabilities (e.g., 5% to 25% for the green bars). Range of stages corresponding to those probabilities can be found on the left scale of the graph (see Example).

Bars are shown in weekly increments.

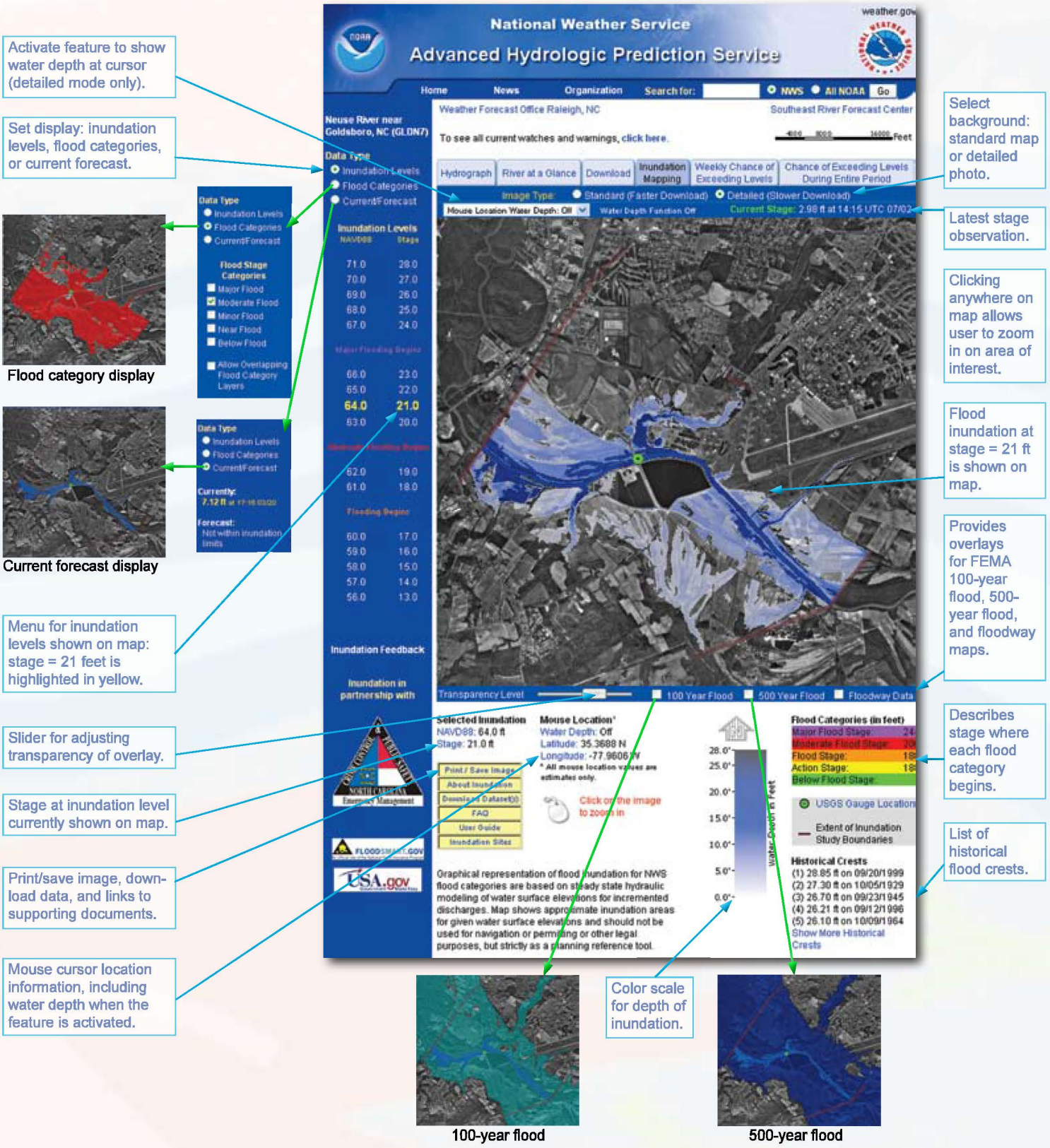
Provides explanation of the graph.

Example: For week of 5/5 to 5/12, the bottom of the green bar shows there is a 25% chance the stage will exceed about 9.1 feet and the top shows there is a 5% chance the stage will exceed about 21 feet.

Allows user to display probabilities in terms of stage, discharge, or weekly flow volume.

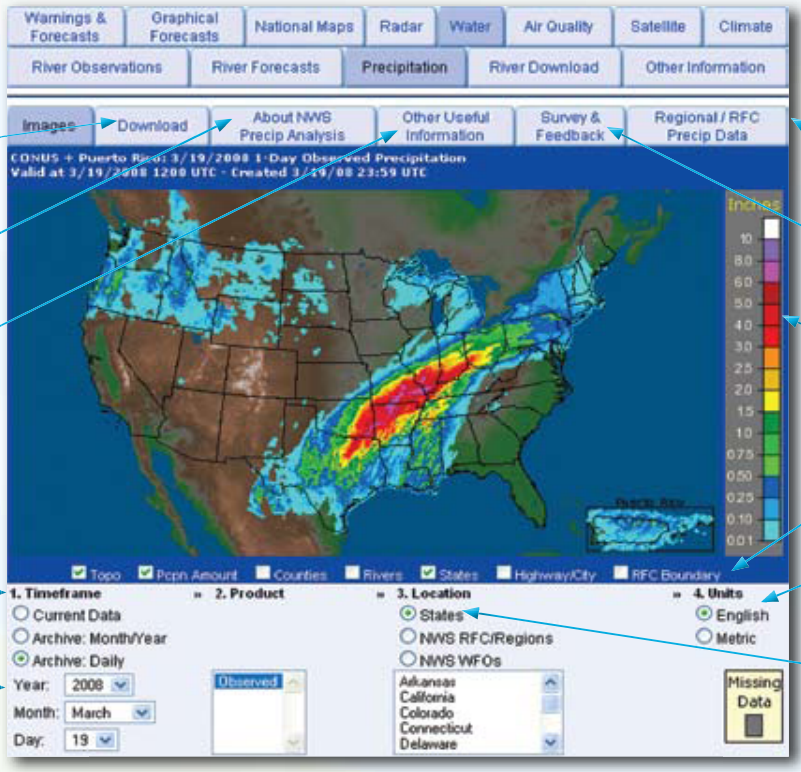
Flood Inundation Map

This interactive web page shows the spatial extent of possible or expected flooding in a given area. It can be used to show if roadways and structures will be impacted by floodwaters. A
ly available, this web page is accessed by clicking on the inundation mapping tab on the hydrograph web page. In collaboration with partners, this product will be expanded to new locations.



Precipitation

This web page shows the digital precipitation estimates used in National Weather Service river forecast models.



Allows download of digital data in shapefile or netCDF format.

Description of precipitation display and its features.

Provides list of links to other precipitation - related web pages.

Third row shows options available under "Precipitation" category.

Feedback from users is highly valued.

Precipitation depth in selected units.

Selectable timeframe: current, archived monthly, or archived daily data.

User can select year and month or year, month, and day depending on archive timeframe chosen.

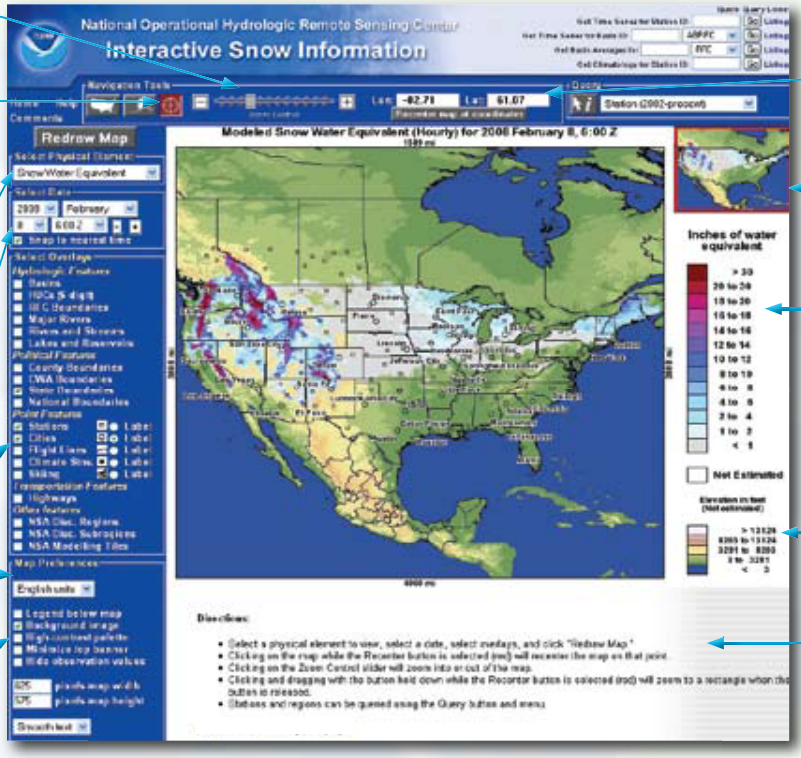
User selectable overlays.

Select units for display.

Area covered: state, major hydrologic region, or weather forecast office area (defaults to CONUS + Puerto Rico.

Interactive Snow Information

This web page (www.nohrsc.nws.gov/interactive/) provides an interface to remotely sensed snow information.



Control map zoom down to portions of counties.

When box is red, clicking and dragging while holding down mouse button and then releasing zooms in on created rectangle area.

Select type of data to display – e.g., snow water equivalent, snow depth, or snow water equivalent change.

Select date and time to display.

Select geographic features to display.

Select display units (English, metric).

Miscellaneous display control features.

Latitude and longitude of cursor location. User can enter coordinates to re-center map.

Map shows portion of U.S. currently being displayed.

Key to information being displayed.

Elevation key for base map.

Directions for use of interactive features.

The Advanced Hydrologic Prediction Service, or AHPS, is a program in NOAA's National Weather Service designed to provide improved river and flood forecasting and water information. AHPS provides a suite of graphical and numeric products over the Internet to assist community leaders and emergency managers in making better life- and cost-saving decisions about evacuations and movement of property before flooding occurs.

To access the water information in this brochure, see:

http://water.weather.gov

Feedback on these web pages is welcome at:

www.weather.gov/feedback.php

NOAA/PA 200850

APPENDIX B: AHPS PHASE VI USERS GUIDE

The National Weather Service

AHPS Phase VI
End User's Guide
ver 1.0

Table of Contents

Background

Advanced Hydrologic Prediction Service (AHPS) are a new and essential component of our Climate, Water, and Weather Services. AHPS is a web-based suite of accurate and information-rich forecast products. They display the magnitude and uncertainty of occurrence of floods or droughts, from hours to days and months, in advance. These graphical products are useful information and planning tools for many economic and emergency managers. These new products will enable government agencies, private institutions, and individuals to make more informed decisions about risk based policies and actions to mitigate the dangers posed by floods and droughts.

New Features in Current Release

In this release of AHPS, two major updates have been applied to the traditional interface:

- Introduction of "Low Flow" designation on Hydrographs
- Utilization of Google Maps interface instead of Tiger Maps at Gauge Location

Low Flow

In relation to stage height, a brown line can now be plotted on Hydrographs to depict levels of low flow on the water body. This can be useful information to the general public in regards to activities that may rely on certain hydrologic flow rates or stage levels such as canoe/kayaking and fishing.

See following page for Hydrograph example.

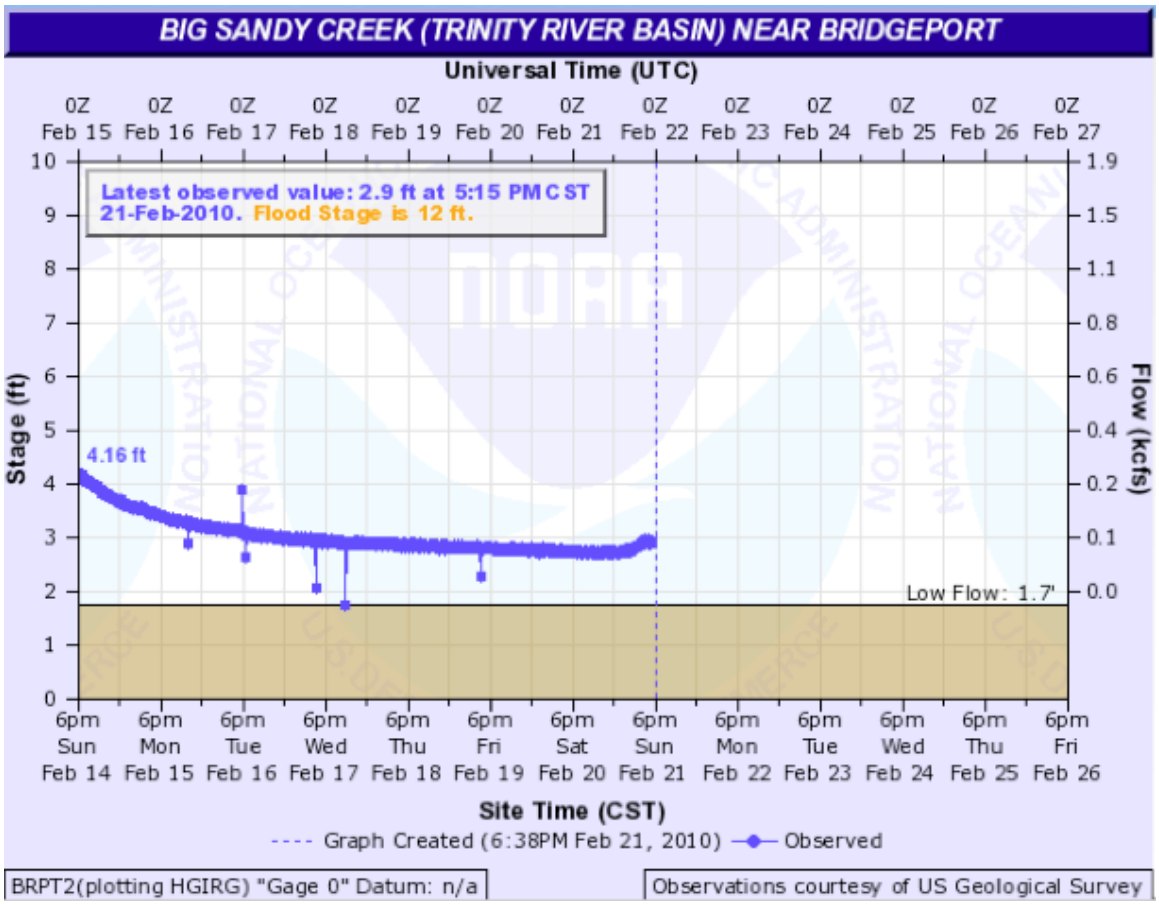


Figure 1: **Hydrograph displaying Low Flow**

Google Maps Inteface (Gauge Location)

In previous releases of AHPS, maps of Gauge Locations were created using the US Census TIGER Map system. While effective in displaying pertinent information at and around the sensor, it was limited in that it was a static image. With the introduction of Google Maps, users now have a very powerful mapping tool on their interface that can provide them with different zoom levels of information and different types of maps. This is a very important part of this release as it was created in order to serve the many different types of customers that use the AHPS interface.

Example of Legacy TIGER Map interface:

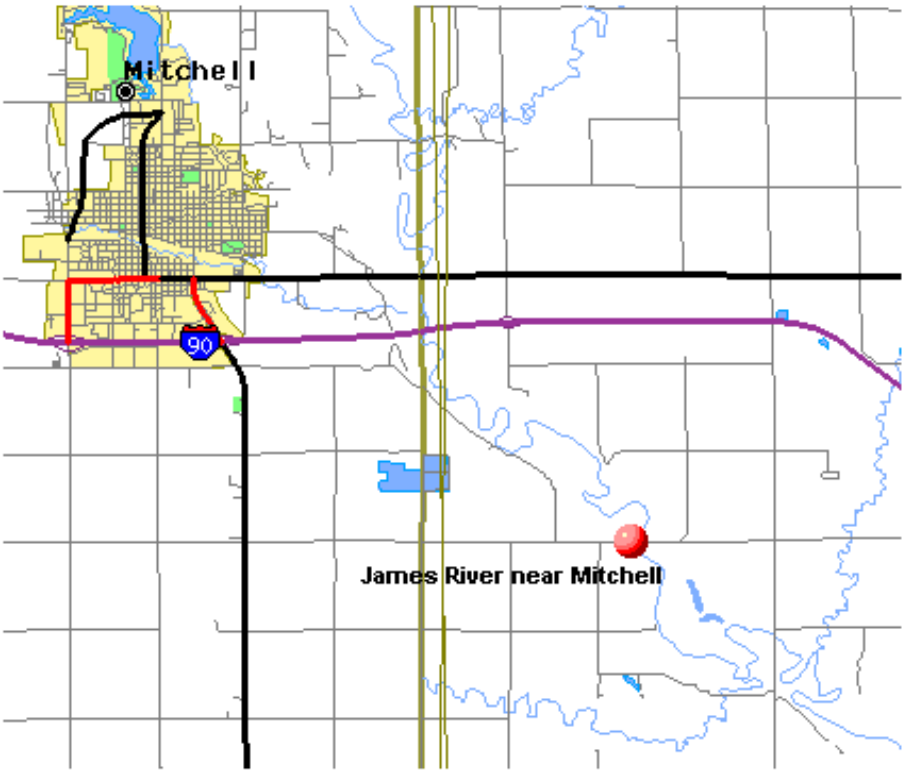
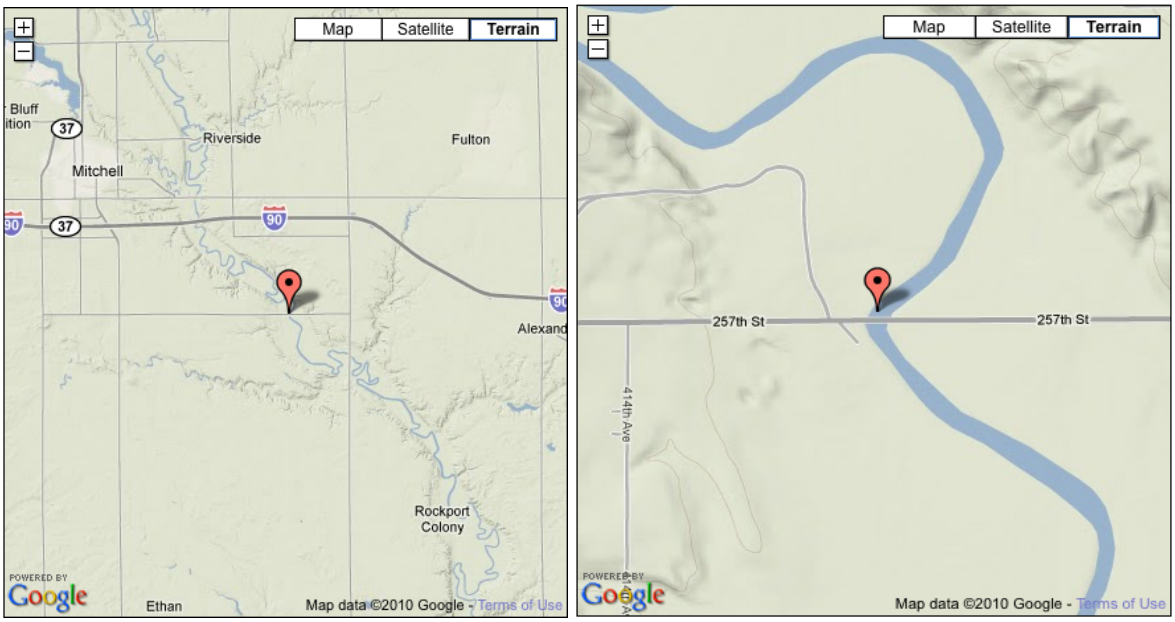


Figure 2: **Legacy TIGER Map example**

Example(s) of same Gauge Site utilizing new Google Maps interface:



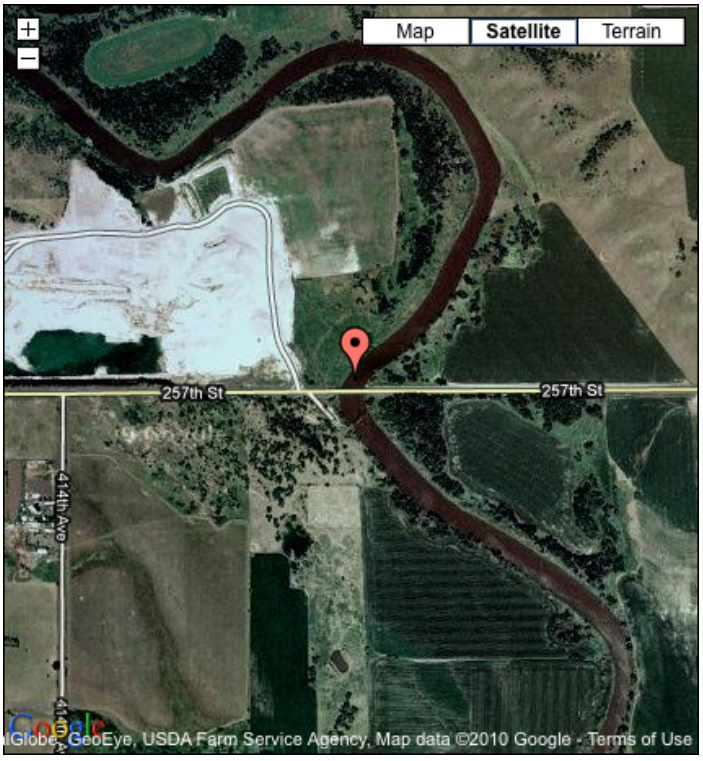


Figure 3: **Google Maps Example of Same Site (Figure 2)**

APPENDIX C: FLOOD EMERGENCY INFORMATION FORM

Flood Emergency Information Form

This form shall be completed by all contractors and other third parties performing work on the site except when all three of the following conditions apply:

1. Duration of on-site activity is less than two days; and
2. All equipment to be brought onto the site can be removed promptly by the contractor or third party; and
3. There is no threat of a flood condition (Flood Alert, Flood Warning, or Flood Emergency) predicted during the actual work period.

The completed form shall be provided to the Flood Control Coordinator or designee.

1. Company or Organization: _____
2. Working under contract to: _____
3. Primary On-site Contact Name: _____
4. Primary On-site Contact Telephone: _____(cellular)
5. Backup On-site Contact Name: _____
6. Backup On-site Contact Telephone: _____(cellular)
7. Work Description: _____

_____

8. On-site Work Start Date _____
9. Anticipated On-site Work Completion Date:_____
10. Anticipated Number of Personnel _____
11. On-site Work Location(s): _____

_____

12. List of major on-site equipment and materials_____

_____

_____

_____(attach additional sheets if necessary)

I have received and will immediately review the site Flood Emergency Procedures Plan Copy No. ___. The Flood Emergency Procedures Plan shall be returned upon completion of the work.

_____ _____ _____

Name (printed) Signature Date

APPENDIX D: EMERGENCY CALL LIST

1.0 PURPOSE

To identify contact information for personnel referenced in site procedures and plans at the American Cyanamid Superfund site in Bridgewater, NJ.

2.0 SCOPE

This procedure applies to the American Cyanamid Superfund site (the Site) operated by Wyeth Holdings Corporation located in Bridgewater, NJ.

3.0 RESPONSIBILITIES

3.1 Contractors – Depending on the nature of the emergency or procedure, contractors will notify the appropriate individuals in Appendix A. In addition, contacts listed in Appendix A will update the Site Manager if their contact information changes.

3.2 Site Manager - The Site Manager (SM) or designee is responsible for overseeing the emergency contact list for the Bound Brook site and updating it as needed.

4.0 PROCEDURE

4.1 The Site Manager or designee will maintain a list of Emergency Contacts (see Appendix A).

4.2 The Site Manager will update the list as needed to reflect changes in personnel.

4.3 Annually, the Site Manager or designee will route the Emergency Contacts List to the individuals listed in Appendix A as a routine review and update to the contact information.

5.0 APPENDICES

5.1 APPENDIX A – Emergency Call List

APPENDIX A
EMERGENCY PHONE NUMBERS

INTERNAL EMERGENCY CONTACT LIST				
Title	**Name**	**Company**	**Emergency Contact Phone**	**Off-Hour Emergency Contact or Alternate**
Container Operator	Joe Nelson	Woodard & Curran	267-394-3686	215-547-7013
Emergency Assistance	Security	Securitas	732-805-0431	911
Emergency Response Coordinator	Jeff Wilkes	Woodard & Curran	201-693-8994	908-620-9690
Emergency Response Coordinator Alternate	Joe Nelson	Woodard & Curran	267-394-3686	215-547-7013
Flood Control Coordinator	Jeff Wilkes	Woodard & Curran	201-693-8994	908-620-9690
Flood Control Coordinator Alternate	Joe Nelson	Woodard & Curran	267-394-3686	215-547-7013
Flood Control Coordinator Alternate	Jason Schindler	Woodard & Curran	732-740-5529	732-919-2787
Operations & Maintenance Site Manager	Jeff Wilkes	Woodard & Curran	201-693-8994	908-620-9690
Operations & Maintenance Site Manager Alternate	Andy Crawford	Woodard & Curran	518-965-4572	518-965-4572
Operations & Maintenance Site Manager Alternate	Dave Dedian	Woodard & Curran	207-329-6545	207-329-6545
Owner's Representative	Russ Downey	Pfizer Inc	908-413-0811	908-617-5286
Pfizer Site Contact	Russ Downey	Pfizer Inc	908-413-0811	908-617-5286
Pfizer Site Contact Alternate	Nick Andreopoulos	Pfizer Inc	917-446-4268	201-444-5047
Pfizer Legal	Ron Schott	Pfizer Inc	212-733-9083	--
Pfizer Media Relations	Chris Loder	Pfizer Inc	269-833-6387	269-760-0770
Project Coordinator	Roy Dane	Quantum	732-853-7658	908-393-7006
Remediation Contractor	John Mnych	O'Brien & Gere	732-713-9044	732-713-9044
Security	n/a	Securitas	732-805-0431	--
Site Manager	Andy Anderson	Quantum	973-222-8876	201-385-3423
Site Manager Alternate	Roy Dane	Quantum	732-853-7658	908-393-7006
Site Manager Alternate	Ranae Adee	Quantum	201-362-4117	201-995-1228
Site Manager Alternate	Vince D'Aco	Quantum	973-650-3341	212-600-4875

EXTERNAL EMERGENCY CONTACT LIST				
Title	**Name**	**Company**	**Emergency Contact Phone**	**Off-Hour Emergency Contact or Alternate**
Electric & Gas	n/a	Public Service	800-436-7734	--
EPA Information Line	n/a	EPA	800-227-8917	--
EPA On-Scene Coordinator (OSC)	Thomas Budroe	EPA	908-420-4487	budroe.thomas@epa.gov
Fire Department	n/a	Finderne	911	732-356-3024
First Aid & Rescue Squad	n/a	Finderne	911	732-469-5311
Flood Control Contact for Blue Lot	Mark Jener	Somerset County Eng.	908-231-7024	--
Hospital	n/a	Somerset Medical Center	911	908-685-2920 (ER)
National Response Center (NRC)	n/a	NRC	800-424-8802	202-267-2675
NJDEP Reporting Contact	Haiyesh Shah	NJDEP	609-633-0718	haiyesh.shah@dep.state.nj.us
NJDEP Report Contact Alternate	Gwen Zervas	NJDEP	609-633-7261	gwen.zervas@dep.state.nj.us
Office of Emergency Management	n/a	Somerset County	908-725-5070	908-231-7000
Police Department	n/a	Bridgewater	911	908-722-4111
Public Works (Roads)	n/a	Bridgewater Township	732-469-0555	--
Sewerage Authority	n/a	SRVSA	732-469-0593	--
Spill Cleanup Contractor	n/a	Veolia	973-347-7111	800-431-2387
Urgent Care Center	n/a	Concentra	908-757-1424	--
Urgent Care Center	n/a	Priority Medical Care	908-231-0777	--